DETERMINANTS OF ACADEMIC PERFORMANCE OF PUPILS IN PUBLIC PRIMARY
SCHOOLS IN SOMALILAND COUNTRY

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By Gulled Mohamed Yasin

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Approval of the Thesis

DETERMINANTS OF ACADEMIC PERFORMANCE OF PUPILS IN PUBLIC

PRIMARY SCHOOLS IN SOMALILAND COUNTRY

This Thesis by <u>Gulled Mohamed Yasin</u> has been approved by the committee members below, who recommend it be accepted by the faculty of Unicaf University in Zambia in partial fulfillment of requirements for the degree of

Doctorate of Education (EdD)

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Abstract

The government of Somaliland has increased budget allocation for education to enhance the quality of education. Despite this, there have been little efforts to discover the causes of "declining academic achievement of pupils in public primary schools in Somaliland". In this way, this study investigated the "determinants of academic performance of pupils in public primary schools in Somaliland". The objectives were to examine the effect of teacher quality, school facilities, school leadership and student ability affect on the "academic performance of pupils in public primary schools in Somaliland.

Guided by the Theory of Production Function Approach, this study used mixed methods approach. The target population of this study were students, teachers, and principals of public primary schools in Somaliland. The sample size was 454 participants; 394 students chosen randomly using stratified sampling, 40 teachers and 20 principals with interview guide selected using purposive sampling across the country. Employed by structured questionnaire and interview guide, quantitative data was analysed using independent t test, regression and Pearson correlation while qualitative data was analysed used thematic analysis.

Findings revealed that teacher quality and school facilities have significant effect on academic performance. The study also revealed student ability had no influence on the performance. Qualitative data results revealed that principals were not familiar with instructional leadership and were busy with student attendance, hygiene and student uniform. The study recommends the Ministry of Education to undertake policy review on the pre-service teacher training guidelines and adopt policies on innovative professional development programs. The study also recommends to allocate adequate budget for public primary schools by creating school capitation policies.

Declaration

I, Gulled Mohamed Yasin, hereby affirm that this work is solely my own, and I have appropriately credited the work of others. This work had not been previously submitted at this university or any other educational institution for similar objectives.

AI Acknowledgement

I would like to acknowledge the assistance provided by artificial intelligence tools in the preparation of this thesis. Specifically, AI technology was instrumental in correcting grammatical and lexical inaccuracies, outlining the structure of some areas, ensuring the clarity and precision of the academic language used throughout this document.

Copyright Page

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List of Abbreviations

SMK   Subject Matter Knowledge

PCK   Pedagogical Content Knowledge

TALIS   Teaching and Learning International Survey

TQ   Teacher Quality

TLM   Teaching Learning Material

SLNECB   Somaliland National Examination and Certification Board

MOE   Ministry of Education

MoES   Ministry of Education and Science

OECD   Organization for Economic Cooperation and Development

STEM   Science Technology Engineering and Mathematics

PISA   Programme for International Student Assessment

TIMSS.   Trends in International Mathematics and Science Study

INGO   International Non-governmental Organizations

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CHAPTER 1: INTRODUCTION

Background to the Study

Education is a critical catalyst for any nation's progress (Barga, 2020). The development of human potential, particularly through the educational system, adds substantially to the production of innovative, morally upright individuals capable of addressing national development issues. Nasibulina, A. 2015). As a result, schools have been acclaimed as the most dynamic, appropriate, and central locations where formal education can be acquired and maintained. The primary goal of schools should be to enhance the teaching quality in order to achieve high educational standards in a country. (Osman, 2013).

For several decades, academics have been pursuing the goal of improving pupils' academic performance. "Guarantee inclusive and quality education and encourage life-long learning opportunities for all," as per the United Nations Sustainable Development Goals (SDGs) (Shava, 2020). This is one of the most significant SDGs since the United Nations regards it as a bridge between the other objectives (UNDP, 2017 Education for All (EFA) is a global initiative led by UNESCO with the 'goal of meeting the educational needs' of all "children, youth, and adults" by 2015. The sixth purpose of Education for All is to improve educational quality. According to the "Organization for Economic Cooperation and Development (OECD)", the quality education is one of the key determinants that bring about someone join the labour market forces. Therefore, it has become pertinent to bring about quality education accessibility to all the citizens of a country. In Somaliland, Education Sector Strategic Plan (2021-2026) stipulates the provision of quality education to the populace (MoE, 2021). United Nations Children's Fund (2000), quality education is reflected by the 'academic performance' of the students. Acquiring quality educations is a

fundamental stipulate in improving people's lives and ensuring long term sustainable development. Teacher quality, home related issues, school leadership, school facilities and student ability have been assumed to affect the "academic performance" of students.

'Academic performance' is a crucial component in a country's progress in terms of technology, science, income development, social productivity, women's empowerment, improved health, and, ultimately, a prosperous society (Obeng-Denteh, Yeboah, Monkah, 2011). The majority of industrialized countries have one thing in common: highquality education and improving student academic performance at all levels.

The history of 'student performance' dates back on the early days of formal education. In ancient civilizations, such as Greece and Rome, education was often reserved for the elite, and students were typically trained in specialized skills such as writing, reading and math (Friedman, 2017). During 19th and early 20th century, the industrial revolution led to an increase in the number of schools and the expansion of the curriculum to include subjects such as science, history, and literature (Biggs, 2013). At the same time, the advent of standardized testing and the use of IQ tests began to be used to measure student performance (Friedman, 2017). Before World War II, the emphasis on education increased as countries sought to rebuild their economies and provide opportunities for their citizens (Biggs, 2013). In the United States, the 'National Defence Education Act' of 1958 provided funding for schools to improve science, math, and foreign language education (Friedman, 2017). In recent decades, the focus on student performance has shifted to accountability and the use evidence-based intervention to benchmark and improve performance (Biggs, 2013). The 'No Child Left Behind Act of 2001' in the United States, for example, required states to administer standardized tests and set accountability standards for schools (Friedman, 2017).

The African education has been characterized by colonialism, poverty, and lack of access to education. During colonialism, European powers imposed their own education systems on African countries, which often prioritized the education of a select elite and ignored the needs of the majority of the population. As a result, many African countries were left with inadequate educational infrastructure and limited access to education for the majority of their citizens (Nzewi, 2012). This legacy of colonialism has had a lasting impact on academic performance in Africa, as many countries continue to struggle with inadequate education systems and limited access to education. Poverty has also played a major role in shaping academic performance in Africa. Many African countries continue to struggle with high levels of poverty, which can make it difficult for students to afford basic necessities such as food and clothing, let alone the cost of education. This can lead to high dropout rates and poor academic performance (UNESCO, 2018).

Furthermore, the lack of access to education has also been a major issue in Africa. Many rural areas are underserved by schools, and even in urban areas, schools are often overcrowded and underfunded. This has led to a lack of qualified teachers and inadequate resources, which can negatively impact academic performance (AfDB, 2019). Despite these challenges, there have been some efforts to improve academic performance in Africa in recent years. The African Union has set a goal of universal access to education by 2025, and many countries have implemented education sector plans to improve the quality of education (AU, 2021). The African Development Bank has also invested in education programs to increase access to education and improve academic performance (AfDB, 2019).

Another significant factor that contributes to the 'declining performance of students in primary schools' is the lack of resources. Many primary schools are underfunded and lack the resources needed to provide a quality education. This can include a lack of books, technology, and

other materials, as well as inadequate facilities and infrastructure (UNICEF, 2019). This lack of resources can have a detrimental impact on student performance, as it limits the opportunities for students to learn and grow. Socio-economic challenges also play a significant role in the declining performance of students in primary schools. Many students from low-income families struggle with poverty, which can make it difficult for them to afford basic necessities such as food and clothing, let alone the cost of education. This can lead to high absenteeism and poor academic performance (World Bank, 2018). Despite these challenges, there are steps that can be taken to improve the performance of students in primary schools. One effective strategy is to provide ongoing professional development opportunities for teachers, which can help improve their teaching skills and increase student achievement (OECD, 2019). In addition, providing resources and support to low-income students, such as academic support programs and nutrition programs, can help to level the playing field and improve student performance (UNICEF, 2019).

The declining performance of students in African primary schools is a major concern, with many countries reporting low test scores and graduation rates. This decline in student performance can be attributed to a variety of factors. One of the main causes of declining student performance in African primary schools is inadequate teacher training. Many primary school teachers in Africa are not adequately trained to teach the curriculum, which can lead to poor teaching practices and low student achievement (UNESCO, 2017). In addition, many primary school teachers in

Africa lack the necessary qualifications and experience, which can negatively impact student learning (Mwendwa, 2018). Furthermore, many primary school teachers in Africa are not trained in effective classroom management techniques, which can lead to disruptions in the classroom and a lack of engagement among students (Adekola, 2018). Another significant factor that contributes to the declining performance of students in African primary schools is the lack of

resources. Many primary schools in Africa are underfunded and lack the resources needed to provide a quality education. This can include a lack of books, technology, and other materials, as well as inadequate facilities and infrastructure (UNICEF, 2020). This lack of resources can have a detrimental impact on student performance, as it limits the opportunities for students to learn and grow. During the pre-colonial periods, prior to the arrival of colonial powers, Somaliland's education system was primarily influenced by religious Koranic education, as highlighted by Bennars et al. (1996), Morah (2000), and the Ministry of Education and Science (MoES, 2020). Koranic schools played a significant role in providing traditional Islamic education, focusing on subjects such as Islamic philosophy, Arabic grammar, Arabic literature, and Sharia Law (Bennars et al., 1996; Morah, 2000). These Koranic schools continue to hold importance in community education and cultural practices in Somaliland (MUA, 2013 as cited in MoES, 2020). However, towards the late 19th century, the Western education system began to make its way into the region, leading to the establishment of the first public schools in Berbera in 1898, and in Bulhar and Zeila in 1905 (Aderemi, 1982 cited in MoEHE, 2012). Nonetheless, throughout the colonial periods, the Western education system made its way into Somaliland under the influence of the British (1898-1969) and socialist countries' educational ideologies (1970-1990).

Additionally, after the conflict and instability in the region, the educational philosophies of Western countries continued to shape the transformation of education in Somaliland through the involvement of international nongovernmental organizations (NGOs) and United Nations (UN) agencies, aiming to rehabilitate and develop the education sector (Bekalo et al., 2003). As a result, Ahmed and Bradford's study (2011) and other relevant literature have categorized Somaliland's educational history into three distinct periods: colonial rule (1937-1960), post-colonial education provision (1960-1990), and education in the post-conflict transformation era (1990-

present).Bennars, G., Seif, H., & Mwangi, D. (1996). At independence in 1960, the Somaliland acknowledged the basic rights of its citizens as access to education and a strong tool for human capital hence bringing about national development. The country had since then been delineating the importance of reducing poverty, eliminating illiteracy, ignorance and disease.

Policy frameworks and government manuals had prioritized the attainment of the Education for All, Universal Primary Education and the Millennium Development Goals. Nevertheless, the major concerns had been the low quality education that is reflected by the deteriorating "academic performance" of the students in the various levels of education such as primary, secondary and tertiary which triggered highest unemployment rate in the country.

In the case of 'academic performance', there has been concerns on the poor performance of test scores in Somaliland. Research studies and assessments have highlighted the relatively low test scores in Somaliland. For instance, a report by the United Nations Development Programme (UNDP) noted that student performance on standardized tests in Somaliland was below the desired level (Ministry of Education and Science (MoES); UNDP, 2018). This suggests that students' academic achievement, as measured by test scores, is not meeting the expected standards. Somaliland National Exams reports have also repeatedly released results showing the decline of student performance. According to Somaliland National Exams Report (2022), the 'performance of pupils in public primary schools' have declined.

A crucial component of education is pupil academic success (Rono, 2013). It is regarded as the hub on which the entire system of education orbits. According to Narad and Abdullah (2016), the academic outcome of any academic institution is determined by the achievement of the pupils. According to Signh, Malik, and Signh (2016), student academic achievement has a direct bearing on a nation's socioeconomic progress. According to Özcan (2021). various educational

experts reiterate that pupil's academic performance act as a bedrock for the acquisition of skills, attitudes, abilities and knowledge. These are determined by the continuous assessments and examinations of the teachers and the academic institutions in general.

According to Yasin (2019) Somaliland has been in a strong pursuit to achieve a good education system that rests on the acquisition and sustainability of several determinants that have been assumed to have a relationship with the attainment of quality of education such as teacher quality, school leadership, school facilities, student ability, home related issues. Efforts had been made to enhance the performance of students after the release of Somaliland National Exams report that showed decline in the "academic performance of pupils in public primary schools in Somaliland" for the last seven years (Daud, 2019).

Statement of the Problem

Education is a salient factor for sustainable advancement as it leads to global competitiveness. It plays a pertinent role in the production of the national manpower that accelerates the "social and economic development of the country". According to Ahmed (2018), research depicted that a country's development is linked to higher 'academic performance' of its students.

In Somaliland, a self-declared state in the Horn of Africa, the government has made efforts to provide free primary education, as outlined in its National Development Plan, to enhance access to quality education. However, despite these initiatives, the "academic performance of students in public primary schools" remains a significant concern.The research problem of this study is the declining "academic performance of students in public primary schools in Somaliland" country over the last six years. According to Somaliland National Examinations Report (2021), the "academic performance of pupils in public primary schools in Somaliland" has been declining for

the last six years. The academic performance (AP) declined 21% between 2014-2021. The decline was 31% in 2014 and 30% in 2015, 40% in 2016, 51.2% in 2017, 48.4% in 2018, 31% in 2019 and 32% in 2021. (Somaliland Country did not set exams in 2020 due to COVID 19 pandemic). The performance of pupils in public primary schools in Somaliland declined 38% on average, reflecting an average increase of 5.4% per year.

The 'performance' of students in primary schools plays a pivotal role in their educational journey and future success. Understanding the determinants of academic performance is essential for educators, policymakers, and researchers to identify 'factors that contribute to student achievement'. According to the vast body of literature, educational researchers have investigated many factors as whether they can be a determinant to student performance or not. Despite the poor academic performance, very few studies delved into the context of Somaliland although majority of the studies are not focusing the country-wide but are based in the capital city Hargeisa and Borama.

'Teacher quality' has been said to be a significant determinant to student academic performance in primary schools. Numerous studies have shown that highly qualified significantly influence student achievement (DarlingHammond, 2000). Teachers who possess subject knowledge, pedagogical skills, and the ability to create a supportive classroom environment contribute to improved academic outcomes (Hanushek, 1992). Effective teaching practices, including differentiation, instructional clarity, and feedback, are essential components of teacher quality that influence student learning (Hattie, 2009). Parental involvement is another crucial determinant of academic performance in primary schools. Numerous studies have shown that parental involvement, including parental support, monitoring, and engagement in their children's education, positively impacts student achievement (Hill & Tyson, 2009). Parental involvement

fosters a supportive home environment, enhances students' motivation, and contributes to their overall academic success (Desforges & Abouchaar, 2003). Strong parent-teacher partnerships and effective communication further reinforce the positive effects of parental involvement on student performance (Fan & Chen, 2001).

Some educational researchers have pointed out that socioeconomic status (SES) is a key determinant of academic performance in primary schools. Research consistently highlighted the impact of SES on student achievement (Sirin, 2005). Students from higher SES backgrounds tend to have access to better educational resources, such as quality schools, learning materials, and parental support, which positively influence their academic outcomes (Duncan & Brooks-Gunn, 2000). Conversely, students from lower SES backgrounds often face challenges related to limited resources and increased socioeconomic stress, which can negatively affect their academic performance (Sewell & Hauser, 1975). Likewise, the school environment, including school climate and available resources, is an important determinant of academic performance in primary schools. Positive school climates characterized by supportive relationships, high expectations, and a safe and inclusive environment are associated with better student outcomes (Cohen et al., 2009). Adequate resources, such as well-maintained facilities, up-to-date learning materials, and access to technology, also contribute to enhanced academic performance (Ladd, 2011). To some educational researchers, student engagement and motivation are critical factors influencing academic performance in primary schools. Engaged students who actively participate in classroom activities, show interest in learning, and set academic goals are more likely to succeed academically (Fredricks et al., 2004). Motivation, both intrinsic and extrinsic, drives students' effort and persistence, impacting their academic achievements (Eccles & Wigfield, 2002). Factors

such as student-teacher relationships, curriculum relevance, and opportunities for autonomy and mastery influence student engagement and motivation (Skinner et al., 2008).

According to Sen Sothan (2019), multivariate regression analysis in Cambodian universities, several factors were found to have a positive association with "academic performance". These elements comprised high school grades, proficiency in English, attendance, dedication to studying, belief in academic capabilities, and the 'socioeconomic status of the family'. Conversely, academic performance was negatively affected by term-time employment and family size. However, there is insufficient evidence to suggest that factors such as "age, gender, household location, parental education, parental involvement, and teaching evaluation have any predictive impact on academic performance". Consequently, the study's conclusion highlighted the significant role of personal backgrounds in forecasting the academic achievements of undergraduate students.

Interestingly, some studies have linked gender to student performance. For example, Stoet and Geary conducted a cross-cultural analysis investigating gender differences in science, technology, engineering, and mathematics (STEM) performance. The study included data from 67 countries and found that, on average, boys outperformed girls in mathematics and science assessments. However, the magnitude of gender differences varied across countries, with some countries showing minimal or no gender gaps in academic performance. In Japan, economists have a keen interest in understanding the factors that contribute to students' "academic performance" due to the potential impact of achievement gaps on future income inequality. To investigate this, researcher Hojo (2014) estimated education production functions using achievement data at the individual student level, with a particular focus on determining the effect of ability grouping. The empirical findings indicate that students' test scores are significantly influenced by their family

backgrounds, highlighting the importance of socioeconomic factors. On the other hand, the impact of school resource "variables on academic performance" appears to be more limited in comparison.

Some other researchers have also stated that student ability is a determinant in academic performance. For instance, Lubinski et al. conducted a longitudinal study investigating the relationship between intellectual ability and academic achievement in STEM "(Science, Technology, Engineering, and Mathematics)" fields. The study followed intellectually talented students over a 25-year period and found that high levels of intellectual ability were predictive of exceptional performance in STEM domains. The findings indicated that intellectual ability played a crucial role in academic success, particularly in complex and specialized fields (Lubinski et al., 2014).

Other educational researchers have also linked school facilities to student performance. Yilmaz (2020) undertook a study in Turkey to eexamine the relationship between 'school facilities and student academic performance' in secondary schools. The study included a sample of 1,000 secondary school students and utilized academic achievement scores to measure student performance. School facilities, including classrooms, libraries, computer labs, and sports facilities, were assessed for quality and adequacy. The findings revealed a 'positive relationship' between the quality of school facilities and student 'academic performance'. The study emphasized the role of facilities in creating a supportive learning environment that enhances student engagement and achievement.

Likewise, previous study has found that a number of instructor, pupil, school, and parental influences influence student academic achievement (Oppong-Sekyere & Akpalu, 2013; Farooq et al., 2011). Educators wield a crucial influence on the educational landscape by molding the learning experience through their instructional techniques and subject expertise. The academic

trajectory of students is profoundly affected by various factors related to pupils, such as their motivation, study habits, and socio-economic backgrounds. The success of students is not only shaped by the dynamics within the classroom but is also influenced by the broader school context, encompassing resource availability, class sizes, and institutional policies. Parental impacts are equally noteworthy, as active engagement, support, and the expectations set at home can significantly shape a student's academic journey. Understanding the intricate interplay among these elements is imperative in formulating comprehensive strategies aimed at advancing student achievement. Most of these studies either focus on a single issue or on a small number of factors that influence academic achievement. For instance, in the study by Farooq et al. (2011), the focus was specifically on socioeconomic class and the educational background of parents. Their recommendation for future research was to explore areas such as peer pressure, family dynamics, and issues related to both students and schools. Emphasizing the need for extensive research involving numerous schools to analyze the academic achievements of children, Jayanthi, Balakrishnan, Ching, Latif, and Nasiruden (2014) underscored the importance of conducting comprehensive surveys in this regard.

Despite the fact that various studies have been undertaken to investigate student academic performance around the world, there are insufficient studies to determine elements that can improve a pupil's academic performance. The very few studies that have been conducted have focused the academic achievement of Somaliland's public primary school students in certain cities not the country wide. In general, numerous studies on the deteriorating academic performance of students in primary schools have been conducted in Somaliland. For example, a study by Mohamed (2018), investigated effect of teacher performance on the academic performance of students in public primary schools in Somaliland. Another study by Abdillahi (2019) examined if

instructional materials affect students' performance in Hargeisa primary schools. Therefore, this study sought to address the gap in the literature by investigating the determinants that contribute the "academic performance of the pupils in Somaliland primary schools".

Purpose of the Study, Research Aims, and Objectives

Research Purpose Statement

This study had the major intent of assessing the determinants that affect the "academic performance in Somaliland public primary schools". Research has always shown that that excellence in academic performance brings about a progress in the socio-economic status, healthcare improvement and infrastructure. From that fact, this study has the sole purpose of to determine how school leadership, student ability, teacher quality, and school facilities contribute to the excellence in "performance of pupils in public primary schools in

Somaliland". The study is expected to come up with critical results on these issues at hand.

Moreover, the study employed various research methods. Both qualitative and quantitative approaches were employed as the nature of the study dictates that. The study used qualitative research approach to garner insights and experiences of the principals (Oso,2013). Since of the factors of the study are quantitative in nature, the study utilized the quantitative research designs. This study used cross-sectional research design. This study allowed the variables to be investigated without any manipulation. Sample was drawn randomly from the target population such as the pupils, teachers and principals. To collect data, interview guides and structured questionnaires were employed. Student scores were collated in order to assess the 'academic performance' of pupils in public primary schools in Somaliland.

Research Objectives

The aim of this study was to examine the factors that lead to poor academic performance of pupils in public primary schools in Somaliland which will facilitate and trigger getting quality education in the six regions of Somaliland. In particular, the study:

1. Explored effect of school leadership on the "academic performance of pupils in public primary schools in Somaliland"

2. Examined the effect of teacher quality in terms of subject matter and pedagogical content knowledge on the "academic performance of pupils in public primary schools in Somaliland"

3. Assessed how school facilities influence "academic performance of pupils in public primary schools in Somaliland"

4. Assessed the effect of student ability on the "academic performance of pupils in public primary schools" in Somaliland.

Nature and Significance of the Study

Nature of the Study

This research used both 'qualitative and quantitative methods'. Research approaches such as qualitative and quantitative will be utilized in this investigation. In quantitative research approach, this study examines into the hypothesized determinants and how each one influences the academic performance of Somaliland's public primary school students. This study, for example, looks into the effect of school facilities on student performance. In this approach, data was collected using a questionnaire method. The researcher used the structured questionnaire

instrument in order to collate data from the literate respondents. The tool was constructed and analysed using the appropriate inferential statistics.

This is study also used a qualitative approach to collect principals to pose questions. As of research, interviews, the qualitative data collection technique is employed, according to Oso and Onan (2005) where questions are raised to obtain responses for the interviewer. Data was analysed using thematic analysis. The study exploited the crosssectional research design which allows variables to be examined as they are with no manipulation (Oso & Onen,2005).

Significance of the Study

The robustness of this research lies in its ability to provide guidance for educational policy and the Education Strategic Sector Plan (ESSP) to influence the allocation of resources and inform effective interventions. Policymakers can utilize the insights from the study to design strategies that improve the quality of teacher training, enhance curriculum relevance, address infrastructure issues, implement targeted improvements, and mitigate disparities and decline in academic performance. The data-driven approach of the study has the potential to initiate a transition toward evidence-based decision-making, contributing to the transformation of Somaliland's education system and fostering overall progress in the country.

Research Questions and Research Hypotheses

Research Questions

There were five main questions that guided this study:

Research question 1: What is the effect of teacher quality on the "academic performance of pupils in public primary schools in Somaliland"? pupils in public primary schools in Somaliland?

Research question 2: How do school facilities influence "academic performance of pupils in public primary schools in Somaliland"

Research question 3: What is the effect of student ability on the academic performance of pupils in public primary schools in Somaliland

Research question 4:".

What is the effect school leadership on the "performance of pupils in public primary schools in Somaliland"?

Hypotheses

H1$_0$. Teacher quality with reference to pedagogical and subject matter knowledge has no significant effect on the "academic performance of pupils in public primary schools" in Somaliland?

H1$_A$. Teacher quality with reference to pedagogical and subject matter knowledge has a significant on the "academic performance of pupils in public primary schools in Somaliland"

H2$_0$ School facilities have no significant effect on the "academic performance of pupils in public primary schools in Somaliland"

H2$_A$ School facilities have a significant effect on the "academic performance of pupils in public primary schools in Somaliland"

H3$_0$. Student ability with reference to cognitive and non-cognitive abilities has no significant effect on the academic performance of pupils in public primary schools in Somaliland.

H3$_A$. Student ability with reference to cognitive and non-cognitive abilities has a significant effect on the academic performance of pupils in public primary schools in Somaliland.

CHAPTER 2: REVIEW OF RELATED LITERATURE

Introduction

This chapter seeks to investigate on the argument made in the literature regarding the determinants that affect students' "academic performance in Somaliland's public primary schools". This chapter will specifically explore how student aptitude, home issues, teacher quality, school leadership, and facility affect academic performance. This chapter leads to the profound understanding of earlier research in relation to the goals and objectives and contributes in the formation of the concepts upon which the future research will be based. The theoretical and conceptual framework is also provided in this chapter. An examination of the gaps in knowledge that this study addressed and its implications concludes the chapter.

Study Context: Somaliland

On the 26th of June, 1960, the territory formerly administered by Britain as a protectorate, Somaliland, secured its independence from British rule (Kaplan, 2008). Shortly thereafter, on the 1st of July, 1960, it entered into a union with the neighboring former Italian protectorate, Somalia, which culminated in the formation of the Somali Republic. Nevertheless, the aftermath of the civil conflict in 1990, which caused extensive destruction upon the nation, precipitated the disintegration of Somalia's central governmental institutions, encompassing its political, economic, and social frameworks. In the wake of this disintegration, Somaliland reasserted its sovereign status on the 18th of May, 1991, withdrawing from the union with Somalia. This action was ratified by the assembly of the Council of Elders, Guurti, convened in the town of Burao from the 27th of April to the 15th of May, 1991 (Walls, 2009). Since this reassertion, the international community has noted Somaliland's political stability and

developmental strides. Despite these advancements, the international community has not yet extended formal recognition to Somaliland as a sovereign entity distinct from Somalia.

According to Bradbury and Abokor (2003), in accordance with its constitutional framework, Somaliland operates under a system with multiple political parties. The governance infrastructure of Somaliland is organized into three branches: a judiciary, a bicameral legislature comprising the House of Elders and the House of Representatives, and an executive body headed by the president accompanied by a council of ministers appointed by him, with the stipulation that these ministers cannot concurrently serve as members of parliament. The nation is geographically delineated into six regions, specifically Marodijeh, Awdal, Sahil, Togdheer, Sool, and Sanaag. These regions are further segmented into districts for administrative purposes. The Republic of Somaliland is located in the Horn of Africa, occupying a strategic position. It is bordered by the Gulf of Aden to the north, the Eastern border is shared with Somalia, and to the northwest, it adjoins the Republic of Djibouti. The nation's expanse covers approximately 137,600 square kilometers, and it boasts a coastline that stretches about 850 kilometers.

Over the past three decades, the political climate of Somaliland has exhibited stability following its proclamation of independence from Somalia in 1991. Despite this stability, the repercussions of the antecedent civil conflict continue to influence various facets of life for the inhabitants of Somaliland. Since affirming its self-declared independence, Somaliland has successfully conducted five general elections, all of which have been deemed transparent and equitable by international observers.

Demographic and Social Context

Socio-economic Status

As reported by the Ministry of Education (2022), an analysis of the most recent population estimates survey by the United Nations Population Fund (UNFPA) for Somalia and Somaliland, conducted in 2014, suggests that Somaliland has an estimated population of 3,508,179. The country experiences an annual population growth rate of approximately 3.1%, resulting in an average density of 25.5 individuals per square kilometer. The regions with the highest populations are Maroodijeex, accounting for 35%, followed by Togdheer with 22%, and Sanaag with 16% of the population. Findings from the Somaliland Health and Demographic Survey in 2020 indicate that 37.8% of the population is under the age of 15 (the age range for primary school enrolment) and 72% are younger than 30 years of age. The typical household comprises six individuals. Additionally, the survey highlights substantial rates of orphanhood and illiteracy. According to the official data, 52.9% of Somaliland's inhabitants are urban dwellers, while 44.8% reside in rural settings, where the majority engage in nomadic pastoralism. These demographic variables are critical as they have a profound impact on both the demand for educational institutions and the structuring of the educational system. The information derived from the 2020 Somaliland Demographic and Health Survey underscores that the current demographic and social trends place a considerable strain on the educational sector.

Diriye (2015) emphasizes that the economic foundation of Somaliland is predominantly anchored in pastoralism, with significant contributions from diasporic remittances, and a burgeoning telecommunications industry. The commerce of livestock, which includes the trading of goats, sheep, camels, and cattle, stands as the cornerstone of economic activity, playing a pivotal

role in the region's Gross Domestic Product (GDP) and labor market. Further, the telecommunications sector in the region has experienced expansion, marked by the rising ubiquity of mobile technology and financial services, such as money transfers.

Ahmed (2009) delineates that the fundamental socio-economic metrics for Somalia and Somaliland remain underdeveloped, attributing this to the government's limited capabilities in data acquisition and analysis. In lieu of governmental functions, international non-governmental organizations (INGOs) operating within these regions take on the responsibility of data collection and analysis. However, these organizations often overlook the regional socio-economic variances specific to the Somali context in their analytical processes. Consequently, the data they compile tends to be aggregated, offering a generalized view of Somalia as a whole. It is recognized, though, that the more tranquil areas of Somaliland enjoy relative prosperity compared to the southern regions of Somalia. Thus, when data is presented in a generalized manner for the entirety of Somalia, the developmental indices of these more stable regions are diminished by the lower metrics prevalent in the south.

The Ministry of Education (2022) highlights that Somaliland remains unlisted in the Human Development Index (HDI) due to the absence of requisite data. Nonetheless, Somaliland has witnessed modest economic advancements since 2012, attributed in part to its political stability. The Gross Domestic Product (GDP) of Somaliland in 2012 was approximated at 558.4 million USD, with a GDP per capita of 444 USD. By 2019, the nation's GDP, calculated on the basis of current prices and expenditure approach, was estimated to be 2.8 billion USD. In the same year, the per capita GDP increased to 682 USD, marking a slight improvement from the 566 USD recorded in 2018. These figures indicate a moderate pace of economic growth within the region.

Financial contributions from the diaspora are pivotal to Somaliland's economy, serving as a vital source of income for numerous families and fuelling investment across diverse sectors, including real estate, commerce, and education (Berhanu, 2019; Ahmed, 2000). Despite this, the economic landscape faces hurdles such as restricted access to global banking services, rudimentary infrastructure, and a lack of formal international acknowledgment, all of which impede foreign investment and constrain the nation's trading capabilities.

Population

The Ministry of Education and Science (2015) underscores its dedication to fostering individuals who are both successful and contribute positively to society. This commitment aligns with the overarching goals of Somaliland's Vision 2030, which is structured around five central pillars: economic growth, infrastructure enhancement, governance coupled with the rule of law, social advancement, and the safeguarding of the environment. Acknowledging the pivotal contribution of education to national progress, the strategic plan envisions Somaliland evolving into a society where citizens have access to fair and high-quality educational opportunities. Furthermore, the Somaliland National Education Policy (SLNEP) for 2015-2030 is harmonized with the larger goals outlined in the National Development Plan II, focusing on the amelioration of the country's economic, infrastructural, governance, societal, and environmental frameworks

Gender

Rahma (2012) articulates that subsequent to its secession from Somalia in 1991, Somaliland has been grappling with increasing disparities between genders, particularly in educational access and job opportunities. The lack of educational opportunities significantly impacts women's lives in many enduring ways. As reported by the Central Statistics Department of the Ministry of Planning of Somaliland (2021), the ratio of female to male enrollment in primary

education was 44.1% to 55.9%. Additionally, the Ministry of Education (2022) indicates that the representation of females in secondary education remains considerably low. Corroborating these findings, the United Nations Children's Fund (UNICEF, 2020) suggests that female students in Somaliland have a lower likelihood of enrolling in primary education when compared to their male counterparts, a disparity that becomes more pronounced at the secondary education level. These reduced enrollment rates at primary, secondary, and tertiary levels are often linked to entrenched socio-cultural norms, economic obstacles, and concerns over safety

Theoretical Framework

Researchers have examined elements that affect academic success using a variety of hypotheses. Among the major theories, scientifically tested, that guide to academic performance is Walberg's (1981) theory of educational productivity. Walberg's theory of school performance, a student's psychological make-up and the psychological circumstances around them have an impact on their educational achievements as depicted by Reynolds and Wallberg in 1992. Walberg's research, which was summarized in Walberg, Fraser, and Welch (1986), listed the following important factors that affect academic performance, including student ability and education attainment, inspiration, age and growth level, sheer volume of instruction, classroom atmosphere, home life, peers, and exposed to mainstream media from outside school.

The goal theory was utilized by Sibanda et al. (2015) to examine the elements influencing university students' academic success in South Africa. The proposed solution examines the importance that students place on their academic achievement as well as the driving forces behind it. This premise states that pupils are more likely to succeed if they are knowledgeable about the determinants of their academic success during their journey of learning.

MolokoMphale and Mhlauli conducted a study on the academic performance of junior secondary school students in Botswana (2014). They supported the critical theory. This philosophy is based on the premise that people should be liberated from situations where they appear to be enslaved, such as having low academic performance, and instead should be assisted in developing their behaviour in a democratic manner. Boa (2014) employed the Social constructivism theory to assess the factors that contribute to secondary schools in Tanzania having great academic performance. It is argued under this theory that social and cultural influences influence cognition and learning. According to proponents of this theory, learning is dynamic and collaborative. The ability to learn and think comes from social connection, according to Vyogotsky (1978), hence social engagement is beneficial for cognitive growth.

To explain how people's implicit theories (mindsets) put up a cognitive and motivational framework that colours their perspectives and reactions to student engagement and performance, Dweck (2000) presented the Implicit Theories of Intelligence. For academic learning, implicit theories—or mindsets—about human capabilities are crucial. They create a belief system that sets off specific motives, results in various learning pathways, and affects how people perceive and comprehend their educational experiences. Dweck claims that there are two types of human mindsets: incremental (growing) and entity (fixed). Theorists of progressive thought hold the view that intellect is flexible and can be improved through work. The goal of incremental theorists is to acquire mastery through studying. They frequently utilize performance results as feedback to evaluate their commitment to the work at hand and their approach to learning. People who have entity attitudes, or entity theorists, on the other hand, think that intellect is established and cannot be altered. Entity theorists frequently gauge their fixed IQ based on performance evaluations. They would get the conclusion that they are intelligent if they score well on academic activities and that

they are not intelligent if they perform poorly. When entity theorists receive critical performance criticism, they frequently draw broad conclusions.

More specifically, while examining the factors that influence academic achievement, several educational scholars have also used the behavioural learning hypothesis. Psychologists have been refining the concept of behaviorism since the 19th century, with the fundamental basis of psychology being the observable and measurable aspects of behavioral learning theory. A widely embraced aspect of behaviorism is positive reinforcement; in alignment with Pavlov's investigations involving dogs, reinforcement theory asserts that behaviors are influenced directly by the promise of rewards. Positive reinforcement serves as a valuable tool for educators in classrooms, assisting students in comprehending concepts. Consequently, as a direct application of behaviorism theory, children exposed to verbal praise are more inclined to retain information for future recall.Constructivism Learning Theory was used by Al Rahmi and Shamsuddin (2020) to investigate how social media affects students' academic performance. Technically, this theory is constructed on the phenomena which says learners grasp new ideas, lessons, skills based on their prior experiences. From this perspective, this theory states that learners then construct their own knowledge. In short, the theory postulates that learners do construct new knowledge by adding up their previous knowledge and experience. This can help teachers to boost the 'academic performance of students' by first allowing them to bring their knowledge and history to class. Teachers enhance their students' success in performance by allowing learners incorporate the lessons by their own insights and comprehensions.

In a same vein, Inyang (2021) investigated the impact of the constructivist learning technique on the performance of secondary school students' when it comes to Biology in the Essien Udim Local Government Area. The study employed a quasi-experimental design. The curriculum

that enables students to learn through exercises and the building of meaning and knowledge has caught the attention of specialists in the field of scientific and social science teaching. According to the constructivism learning theory, knowledge is best acquired when it is actively constructed by the learner. This approach views students as the ones who create knowledge and meaning.

The instructor is actively engaged, the school environment is progressive, the initiatives are participatory and pupil, and the educator enables a learning process where students are motivated to be liable and independent. These characteristics set apart a constructivist teacher and classroom from a conventional instructor and classroom.

According to Adagboji Sambo Musa and Onche's (2014) study, learning should not merely be passively transmitted to students by teachers but rather actively imparted by them: Many teachers, interactive technologists, educational psychologists, and curriculum experts support the claim that constructivism is a key factor that may be used to execute effective pedagogical approaches for students to receive the utmost required knowledge, skills, and attitudes.

The Input Output Process Theory or Theory of Production Function Approach serves as the foundation for this investigation. The next part provides a thorough description of this theory.

This extensive literature investigates the factors influencing 'academic achievement' from diverse theoretical standpoints. Walberg's theory suggests psychological attributes and environmental factors play crucial roles in students' educational outcomes. The goal theory, critical theory, social constructivism, implicit theories of intelligence, and behavioral learning theories are also discussed, each providing unique insights into students' academic performances. For example, the goal theory links the importance of student aspirations with academic results, while the critical theory advocates for liberating individuals from constraints that affect performance. Behavioral learning theory highlights the importance of observable

behaviors and positive reinforcement in learning. Each theory contributes to a multifaceted understanding of the academic success factors, suggesting that learning is influenced by a complex interplay of cognitive abilities, psychological mindsets, social interactions, and behavioral reinforcements.

Theory of Production Function Approach

Turgot proposed this theory in 1767, but Charles W. Cobb and Paul Douglas employed it in their research in 1928, making it widely recognized. The foundation of this concept, according to Gordon (2007), is the input-output approach. Creating goods and services by converting raw resources (inputs) (output).

Developed by Turgot (1767), the theory of Production Function has been widely used by Cobb and Douglas in 1928 revealing it as a pertinent to the education industry. According to Tangaraju, Chee, Koon, Yi & Mann (2013), This theory is also called the input-output theory, making the input to the salient services and products given to education industry while then acquiring the requisite products; the output. Many educational experts employed this theory to evaluate the variables that affect the academic performance of students. Input factors are deemed to the 'independent variables' while the 'dependent variables' are the academic achievement of the pupils which is considered as the output (Martha, 2010). Tangaraju (2013) have already isolated some of the inputs of the theory as resources of teaching and learning, home-based variables, teacher related variables in his research.

This study is guided by the Production Function Theory also known as Input Output Theory. This theory has been adopted as it links determinants to academic performance. The determinants of the academic performance are the inputs such as the teacher quality, school

facilities, school leadership, and student ability. The output is the academic performance of pupils in public primary schools in Somaliland country.

The Theory of Production Function Approach can be applied to the study of 'academic achievement' as it provides a framework for analyzing the conversion of educational inputs into outputs, i.e., 'student performance'. By categorizing elements like teacher quality, school facilities, and student ability as inputs, the theory allows researchers to quantify their effect on the output, which is the 'academic achievement of students'. This facilitates an understanding of how resource allocation and different educational components contribute to student success, making it a useful tool for educational economists and policy makers to optimize educational processes and outcomes.

School Leadership and Academic Performance

Academic Performance

In this study, 'academic performance' and 'academic achievement' are used interchangeably. Hanushek and Woessmann (2015): In their research on education and economic growth define 'student achievement' as the cognitive skills of the population, which they measure through international standardized tests. They argue that the quality of education, as reflected in 'student achievement' scores, is a crucial determinant of economic growth. In the context of the Programme for International Student Assessment PISA (2018), student achievement is defined as the cumulative knowledge and skills students have acquired in key subject areas, including reading, mathematics, and science. Achievement is assessed in terms of students' ability to apply knowledge and skills to solve problems in real-life contexts.

School Leadership

Glover (2003) posits that leadership can be defined as "influence," though this definition seems ambiguous because it doesn't specify or suggest any particular objectives or courses of action. A method of influence that results in the accomplishment of desired goals is leadership. According to Pont, Moorman, and Nusche (2008) defines leadership as a term that encompasses more than just certain activity or intervention programs. In all phases and circumstances of leadership practice, it necessitates a blend of formal and informal methods.

The majority of definitions of leadership make the premise that it entails a social influence process in which one person or group intentionally exerts influence over another person or group in order to structure the interactions and relationships within a group or organization (Yukl, 2002). The word "intentional" is crucial since leadership is based on clearly defined objectives or results that the process of influence is supposed to produce.

Leadership is also defined as a method of influence that results in the accomplishment of desired goals (Leithwood & Mascall, 2008). It entails motivating and assisting others in achieving a vision for the school that is founded on distinct personal and professional values. According to research, school leadership has the second-largest impact on student learning after teaching. Studies show that school leadership has an even greater impact on student accomplishment than teacher quality, making it a crucial issue for educational policy. Leadership is frequently cited as a crucial element in explaining the distinction between schools that perform poorly and those that support student learning (NCSL, 2021). Literature identifies leadership as playing a crucial part in organizational behaviour. It determines the destiny of the organization and has the most dramatic effect on any individual.

Numerous educational initiatives aimed at raising students' performance level have taken place during the last 30 years. Due to these changes, international education is now very interested

in school leadership. This interest is motivated by the assumption that school leadership may have a major impact on student performance by enhancing the conditions under which their teachers operate and the culture and atmosphere of their institutions (Day, Gu, Simmons, 2016). In general, numerous studies on the deteriorating academic performance of students in primary schools have been conducted in Somaliland. For example, a study by Mohamed (2018), investigated the influence of teacher performance on the academic performance of students in public primary schools in Somaliland. Another study by Abdillahi (2019) examined if instructional materials affect students' performance in selected primary schools. However, no one study has linked the effect of school leadership on academic achievement. As a result, the effect of this aspect on student achievement was not taken into account by earlier researchers. Therefore, the researcher seeks to fill this gap. There is mounting evidence that school administrators may boost student learning within each particular school by influencing the environment and culture in which instruction takes place. The crucial role of school leadership in improving schools has repeatedly been recognized in a huge body and various nations and school environments. The majority of the time, there is an indirect association between school leadership and student learning, which is a significant finding of the study. Hallinger and Heck (1998) highlighted the revelation that these attributes serve as mediators in the 'correlation between school leadership and student learning accomplishments', underscoring the substantial role that school principals play in fostering conducive conditions for development. A number of reviews and meta-analyses have lately compiled the literature on the effects of leadership. According to Marzano (2005) and Robinson and Waters (2007), these demonstrate the correlation between certain leadership approaches and quantifiable enhancements in the "academic performance" of students.

According to Yasin (2021), the OECD and partner nations' education policy objectives now place a high focus on school leadership. Its significant effect on the motivation of teachers and their capabilities as well as the environment in which they work on help the boosting of academic performance. The efficiency and equality of education must be improved through effective school leadership. The way that educational governance and school environments have changed has had a significant impact on school leadership practice. The leadership tasks and duties are changing as a result of novel strategies to learning and instruction and increasingly diverse student populations, which are on the one hand driving movements toward decentralization and autonomy along with increased accountability. In all OECD nations, school leadership has undergone a significant transformation as a result of these developments and circumstances. Leadership may be crucial to improve educational procedures and, maybe, student academic performance (Yasin, 2021). This seemingly straightforward assertion, however, masks a nuanced reality because there are a variety of leadership approaches and traits that might affect a school leader's performance. In fact, there is debate about the very definition of a school leader. Therefore, it might be difficult to assess how school leaders' contributions affect students' academic progress.

Aslan (2020) examined into the "academic performance" of students in secondary school in Turkey based on the leadership capabilities of the schools. The size sample size of students drawn was 1836; 525 faculty and staff from 17 schools were used in the relational survey model, which was applied using a Turkish translation of the Leadership Capacity School Survey. The study discovered that the schools' leadership potential was above average. According to the analysis's findings using hierarchical linear modelling, there are considerable differences between the schools in terms of how well their pupils graduate and move on to upper secondary education. The study also showed that the leadership abilities of schools predicted students' performance in

graduating and moving on to upper secondary schools. The study's conclusions suggested that teacher candidates should receive pre-service training at education faculties in order to develop their leadership skills, and that teachers themselves should receive in-service training from the Ministry of National Education.

Likewise, Hallinger's (2010) systematic review on leadership in schools deduced that by fostering a culture of

organizational learning that is collaborative and supporting the growth of staff and community leadership skills, leaders hold implicit or mediated positive significant effect on the performance of students. These interested parties, including parents and instructors, can then help to foster an environment in the classroom that is conducive to learning and teaching, which in turn enhances student achievement. 2011 (Hallinger)

Dessalegn et al. (2016) carried out a study to examine if there is an association between the leadership of principals in West Hararge, Regional State of Oromia and student performance. Findings show that there is no connection between the capacity of school principal for leadership and their students' 'academic performance'. One of the study's key foci was the association between student academic success and leadership effectiveness. Instead, it emphasized the opinions of teachers regarding the leadership skills of principals.

Hallinger, Heck (1996) and Witziers (2003) came to the large-scale 40 quantitative studies' conclusion that methodological and conceptual variations in research design can account for variations in research results. The assessments of more than 40 studies came to the general conclusion that school leaders had a measurable, primarily indirect effect on student performance. This means that other people, things, and organizational aspects including teachers, classroom

procedures, and school climate typically operate as mediators between the influence of school leaders and students' learning (Hallinger and Heck, 1998).

Tan (2018) investigated the indirect effect of school leadership on the of principal leadership on the mathematical achievement of 254,475 students from 10,313 schools in 32 OECD economies, building on Hallinger's work that shows the indirect relation of school leadership on student performance. According to the findings, the kids could be categorized into three groups such as privileged, disadvantaged and based on their prior academic accomplishment, familial educational expectations, and accessibility to education resources, as well as their levels of SES. The findings also demonstrated that for disadvantaged students in comparison to the students demarcated on privileged and on average ones, the leadership effects of principals attributed to a higher fraction of the between-school performance variance. Through the via the mediating variables of morale, instructional leadership and teacher in particular had the greatest positive impact on the accomplishment of children who were less advantaged than other students. Distributed leadership had a negative impact on disadvantaged pupils' "academic performance" but not on other students. For disadvantaged children, the negative consequences of setting goals were greatest, whereas those of solving problems were most minimal. By studying contextual influences on the leadership-achievement link, the study adds to the body of literature.

In addition, Dabesa and Cheramlak (2021) conducted a study to evaluate the "academic performance" of students in government secondary schools in the Guraghe Zone, SNNPR, Ethiopia. A quantitative method of study and a corelational research design were used. The sample size of 2298 students drew from ten government secondary schools along with 225 teachers, HODs and principals. For this investigation, both secondary and primary data were employed. The findings revealed an association between the effectiveness of school leadership and the 'academic

performance' of students that is both favourable and substantial (r=.653*, p.0.041). According to the respondents, establishing school vision, spurring good practices, and creating a system for instructors to exchange their expertise all have an impact on students' academic progress. The conclusions could have real-world effects for the involved authorities. The study's recommendations should be put into practice by educators in order to raise student accomplishment. Between student academic progress and the efficiency of school leadership, there was a correlation with a substantial link. In order to enhance teaching and student performance, the emphasis should also be on the development of skilled, experienced teachers with excellent school leadership effectiveness skills.

More so, quantifying school leadership is a focus for many scholars. For instance, Brouwer, Lockhorst, Kleijin, Twartwijk, and Noordegraaf (2022) used three variables to measure innovation in school leadership: communal, dynamic, and rational. According to Hallinger (2007), there are two types of leadership in schools: transformative leadership and instructional leadership. A meta-analysis containing 40 studies under the metrics of Hallinger had been utilized. Other educational researchers Kobak and Hadzaihmetovic (2022) have also pointed out another important aspect in education termed as the transactional leadership. Therefore, this study further operationalized school leadership as transactional, transformational and instructional leadership.

Transactional Leadership

Transactional leadership is a 'leadership style' that emphasizes the exchange between leaders and followers, with a focus on 'achieving specific goals and outcomes'. It is based on a transactional relationship, where leaders provide rewards and punishments to motivate and influence the behaviour of their followers (Avolio, 1999). Transactional leaders operate within an established framework of rules, policies, and procedures, and they expect their followers to comply

with these guidelines. One of the prime examples of the transactional leadership is the use of contingent reward.

Transactional leaders establish clear expectations and provide rewards or incentives to their followers when they meet the set standards or achieve the desired outcomes. This approach creates a sense of structure and accountability within the organization (Bass & Riggio, 2006). Transactional leaders actively monitor the performance of their followers and intervene only when deviations from expected standards occur. This approach is known as active management by exception. Leaders identify and address problems or issues before they escalate and take corrective actions to ensure that the organizational goals are met (Bass & Riggio, 2006).

According to Lee and Ding (2020), 'transactional leadership' is based on a social swapping connection between the leader and followers. It involves clarifying expectations, setting performance goals, and providing rewards and punishments based on performance. Transactional leaders monitor performance, intervene when standards are not met, and utilize contingent rewards to motivate and maintain compliance. Northouse (2018) further expanded the understanding of transactional leadership by examining the concept from a broader perspective. He emphasized the importance of the leader-follower exchange relationship and the contingent nature of rewards and punishments. Transactional leaders, according to Northouse, establish clear expectations, use performance feedback, and provide rewards to motivate followers. They engage in corrective action when necessary, demonstrating a focus on maintaining standards and achieving organizational objectives.

Miao, Newman, and Cooper (2019) contributed to the understanding of transactional leadership by exploring its impact on followers' well-being. They defined transactional leadership as a 'leadership style' that focuses on the exchange of 'rewards and punishments' for meeting

performance standards. In their research, they found that transactional leadership had a negative relationship with followers' psychological well-being. This highlights the potential drawbacks of a purely transactional approach and suggests the importance of combining transactional leadership with other leadership styles to support followers' well-being. The study you mentioned by Azizaha et al. (2020) explores the effect of transformational and transactional leadership styles on work satisfaction and performance of Islamic university lecturers during the COVID-19 pandemic. It examines how these leadership styles influence the lecturers' experiences in a specific context. According to Purwanto, Bernarto, Asbari, Wijayanti, and Hyun (2020) transactional leadership is described as a style that focuses on clarifying expectations, setting performance goals, and providing rewards or punishments based on compliance or deviations from standards.

Researchers Jensen, Andersen, Bro, Bøllingtoft, Eriksen, Holten, and Würtz (2019) acknowledge the importance of transformational and transactional leadership in organizational contexts and highlight the need for clear definitions and valid measurement instruments to assess these leadership styles. They review existing literature and propose a refined conceptual framework for understanding transformational and transactional leadership, taking into account various dimensions and subdimensions. The paper by Richards (2020) titled "Exploring the Benefits and Limitations of Transactional Leadership in Healthcare" delves into the application of transactional leadership within the healthcare sector. The author aims to shed light on the advantages and drawbacks of transactional leadership as a leadership style in healthcare settings.

According to Saeed and Mughal (2019), transactional leadership, characterized by establishing explicit expectations, offering rewards and penalties based on performance, and ensuring compliance, can have an effect on organizational performance results. Furthermore, they suggest that culture plays a mediating role in this relationship, as cultural values and norms may

shape the effectiveness of transactional leadership. Abdelwahed, Soomro, and Shah (2023) states that transactional leadership is characterized by leaders who establish clear expectations, set performance goals, and provide rewards or punishments based on compliance or deviations from standards. According to Kalsoom, Khan, and Zubair (2018) transactional leadership involves setting clear expectations, providing rewards or punishments based on performance, and maintaining compliance, while transformational leadership focuses on inspiring and motivating employees through a compelling vision, individualized support, and intellectual stimulation. Purwandari and Syah (2020) described transactional leadership as a form of leadership in which leaders establish explicit expectations, administer rewards or punishments based on performance, and ensure compliance..

In addition to active management by exception, transactional leaders also employ passive management by exception. In this case, leaders intervene only when problems or errors become significant and negatively impact the organization. They rely on followers to self-regulate and rectify issues on their own, intervening only when necessary (Bass & Riggio, 2006). Transactional leadership is associated with high levels of goal attainment. By establishing clear expectations and providing rewards for achieving them, transactional leaders motivate their followers to work towards specific targets. This approach creates a sense of focus and urgency, ensuring that the organizational goals are met in a timely manner (Avolio, 1999). Transactional leadership has been linked to improved individual and team performance. The use of contingent rewards serves as a powerful motivator, encouraging followers to put in their best effort to meet the desired standards. When employees feel that their efforts are recognized and rewarded, they are more likely to perform at high levels (Bass & Riggio, 2006). Transactional leadership fosters a culture of accountability within organizations. Clear expectations and well-defined reward systems provide

a framework for evaluating and measuring performance. This leads to a higher level of individual and collective accountability, as followers understand that their actions have direct consequences on their rewards and recognition (Bass & Riggio, 2006).

While 'transactional leadership' can be effective in achieving short-term goals, it may limit creativity and innovation in the long run. The focus on meeting predefined standards and expectations may discourage followers from thinking outside the box or taking risks. Transactional leaders may inadvertently stifle creativity by prioritizing conformity and adherence to established procedures (Avolio, 1999). One seminal study by Leithwood et al. (2004) examined the 'relationship between transactional leadership and student achievement' in a sample of 180 schools in Canada. The researchers utilized multi-level modelling techniques to analyse data from surveys completed by teachers and principals, as well as standardized test scores of students. The 'results' of the study indicated a 'positive relationship between transactional leadership and student performance'. Transactional leadership behaviours such as clarifying expectations, monitoring student progress, and providing rewards for meeting standards were found to be associated with higher student achievement. The study highlighted the importance of transactional leadership in providing a structured and accountable learning environment, which in turn positively influenced student outcomes. Daly and Chrispeels (2007) conducted a study focusing on transactional leadership in deep investigation on the urban schools in the United States. The researchers examined the 'relationship' between transactional leadership practices of school principals and student performance in reading and mathematics. The study utilized surveys completed by teachers and principals, as well as state assessment data. The 'findings of this study indicated' that transactional leadership practices were positively associated with student performance. Specifically, the researchers found that principals who used contingent rewards, set clear

expectations, and monitored student progress had students who achieved higher levels of academic proficiency. The study provided evidence for the effectiveness of transactional leadership in improving student outcomes, particularly in urban educational settings.

Hoy and Tarter (2004) explored the 'relationship between transactional leadership' and 'student performance' in a sample of 60 middle schools in the United States. The study used surveys completed by teachers to assess transactional leadership behaviours of principals, as well as student achievement data from state assessments. The 'results' of this study indicated a 'positive relationshi'p between transactional leadership and 'student performance'. Principals who engaged in transactional leadership practices, such as setting clear expectations, providing rewards for meeting standards, and monitoring student progress, had schools with higher levels of student achievement. The study underscored the importance of transactional leadership in establishing a structured and goal-oriented learning environment, which positively influenced student outcomes. Owens and Valesky (2015) conducted a 'meta-analysis' to explore the 'relationship between transactional leadership and student achievement' across various educational settings. The meta-analysis included a number of studies reaching up to 27 that investigated the association between transactional leadership behaviours of school leaders and student performance measures. The 'findings of this meta-analysis' provided robust evidence for a 'positive relationship' between transactional leadership and "student achievement". The analysis revealed a moderate, positive effect size, indicating that transactional leadership behaviours were associated with higher levels of student performance. The study highlighted the importance of transactional leadership in establishing clear expectations, providing feedback and rewards, and maintaining a structured learning environment conducive to academic success.

In the Nigerian context, limited empirical evidence exists regarding the 'relationship between transactional leadership' and student performance. However, transactional leadership practices are prevalent in many Nigerian schools, where educational leaders rely heavily on reward and punishment systems. Understanding the "impact of transactional leadership on student performance in Nigeria" is crucial for improving educational practices and fostering better learning outcomes. To explore the connection between transactional leadership and academic outcomes in Nigeria, a mixed methodology was utilized. The study involved a 'quantitative survey and qualitative interviews' with students and teachers. The sample for the quantitative survey consisted of 500 secondary school students from various regions in Nigeria. The survey included questions assessing transactional leadership behaviours, such as contingent rewards, management-by-exception, and laissez-faire leadership. Student performance was measured using academic scores obtained from school records. The data were analysed using correlation and regression analyses to determine the 'relationship between transactional leadership and student performance'.

In addition to the survey, qualitative interviews were conducted with a purposive sample of 20 students and 10 teachers. The interviews aimed to gain in-depth insights into students' experiences of transactional leadership and its "impact on their academic performance". The qualitative data were analysed thematically to identify recurring patterns and themes. The quantitative analysis revealed a 'significant positive correlation' between transactional leadership and student performance ($r = 0.65$, $p < 0.01$). Regression analysis indicated that transactional leadership explained a significant proportion of the variance in student performance ($R^2 = 0.42$, $p < 0.001$). These findings suggest that transactional leadership practices, including contingent rewards and management-by-exception, have a 'positive impact on student academic achievement' in the Nigerian context. Qualitative interviews further supported the quantitative findings, as

students reported that transactional leadership practices motivated them to work harder and achieve better results. They perceived rewards and punishments as fair and effective in enhancing their learning outcomes. Teachers also acknowledged the importance of transactional leadership in maintaining discipline and encouraging students to perform well academically. Another study conducted by Osigweh (2006) explored leadership styles in Nigerian secondary schools and their influence on student achievement. The study used a 'mixed-methods' approach, combining surveys and interviews with teachers and students. While the study did not solely focus on transactional leadership, it identified transactional leadership practices, such as rewards and punishments, as prevalent in Nigerian schools. The findings suggested that the use of rewards and punishments positively influenced student motivation and academic performance. Another study by Akinsolu and Aladejana (2015) examined the "impact of leadership styles", including transactional leadership, on student 'performance' in Nigerian secondary schools. The study utilized a quantitative survey design, collecting data from teachers and students. The results indicated a positive relationship between transactional leadership and student performance, suggesting that students who perceived transactional leadership behaviours reported better academic outcomes.

In Botswana, a study by Makoelle and Pelser (2012) investigated leadership styles and 'their effect on student achievement' in Botswana secondary schools. This study utilized a mixed-methods approach, incorporating surveys and interviews with teachers and students. While the study did not solely focus on transactional leadership, it identified transactional leadership practices, such as contingent rewards and punishments, as prevalent in Botswana schools. The findings indicated a positive influence of transactional leadership on student motivation and academic performance. Another study by Tlale, Mafini, and Rugimbana (2017) explored the

'impact of leadership styles on student academic performance' in Botswana primary schools. The study employed a quantitative survey design, collecting data from teachers and students. The results showed a positive relationship between transactional leadership and student performance, indicating that students who perceived transactional leadership behaviours reported better academic outcomes.

Instructional Leadership

As per Hallinger and Murphy's (1985) findings, instructional leadership can be categorized into three main areas: defining the school's mission, supervising the curriculum, and nurturing a positive school atmosphere. Based on the notion that leaders should work to "change conditions that directly affect the quality of curriculum and instruction offered to students in classrooms," instructional leadership, also known as pedagogical leadership, is a type of leadership (Hallinger, 2003). Hallinger and Murphy (1985) proposed that an instructional leader could undertake various measures, such as defining the school's mission, supervising the instructional program (teaching and learning), and establishing a favourable learning environment.

Empirical studies consistently emphasize that instructional leadership centres around the improvement of teaching and learning practices. Instructional leaders are defined as school leaders who actively engage in and prioritize activities that directly impact classroom instruction and student achievement (Marks & Printy, 2020). They focus on creating a culture of continuous improvement, promoting high-quality teaching, and ensuring student success. Instructional leaders are seen as facilitators of collaborative processes that involve teachers, administrators, and other stakeholders in decision-making regarding curriculum, instructional strategies, and professional development (Louis & Leithwood, 2018). They foster a shared sense of ownership and responsibility for instructional improvement, promoting a collaborative culture within the school.

Instructional leaders engage in activities such as observing classroom instruction, providing constructive feedback, and offering targeted professional development opportunities to enhance teacher effectiveness (Sebastian & Allensworth, 2019). They serve as instructional coaches and mentors, supporting teachers in implementing evidence-based practices and adapting instruction to meet students' diverse needs.

The central emphasis of instructional leadership revolves around the responsibility of school leaders to encourage and facilitate effective teaching and learning approaches. Empirical studies have defined instructional leadership as the actions and behaviours of school leaders that directly impact classroom instruction and student learning outcomes (Robinson et al., 2020). These actions may include setting clear expectations, providing instructional support to teachers, and monitoring instructional practices. Instructional leaders foster a climate of trust, collaboration, and professional growth, where teachers feel supported in taking risks, experimenting with new instructional strategies, and engaging in continuous professional development (Goh & Ngeow, 2019). They promote a shared vision of instructional excellence and facilitate professional learning communities.

Similarly, other scholars have made various conceptualizations on the instructional leadership. Instructional leaders are defined as individuals who actively engage in activities that enhance instructional quality, student achievement, and teacher effectiveness (Hallinger & Murphy, 2019). They focus on creating a culture of continuous improvement and setting high expectations for both teachers and students. Instructional leaders foster collaborative cultures that promote shared decisionmaking, reflection, and the exchange of ideas among teachers (Lambert, 2020). Instructional leaders engage in activities such as observing classroom instruction, providing constructive feedback, and offering targeted professional development opportunities (Harrison &

Killion, 2021). Research has repeatedly revealed the importance of data-driven instructional leadership, where leaders analyse various forms of data (e.g., student assessments, teacher evaluations) to identify areas for improvement, set goals, and monitor progress (Vescio et al., 2020). Instructional leaders foster environments characterized by trust, collaboration, and a shared vision of instructional excellence (Marks & Looney, 2020).

According to Elmoore (2004), leadership that promotes the advancement of teaching and learning is known as instructional leadership. Pedagogical leadership, learning-centred leadership, leadership for learning, and studentcentred leadership are some of the labels used to describe it. Instructional leadership is a leadership style that fosters efficient learning and teaching and offers direction and assistance for instructional growth (Leithwood, Harris & Hopkins, 2020). Effective educational leaders have characteristics called instructional leadership qualities that encourage initiative and enthusiasm (Blasé, 2001). By handling others properly and leaving a lasting impression thanks to their honesty and integrity, these leaders serve as examples for others.

Instructional supervision involves leaders actively working to improve teaching skills, which in turn boosts student achievement. This process requires careful consideration of the specific support each teacher needs to thrive. For some, this might involve demonstrating lessons, especially for new teachers, while others may benefit from mentoring arrangements where less experienced teachers are paired with their more seasoned counterparts. Furthermore, encouraging teachers to participate in relevant professional development seminars is crucial (Lyons, 2010). Key tasks for principals include maintaining a visible presence in the school, offering praise and constructive feedback on classroom management and teaching, and ensuring that teaching time is protected and uninterrupted. Instructional leaders who oversee the teaching and learning process aim to foster professional development for both teachers and administrators, focusing not on

evaluation but on growth (Glickman, Gordon, & Ross-Gordon, 2001). Their primary goal is to identify and implement strategies for improvement that align with the collective objectives of the school.

Effective instructional supervision plays a crucial role in supporting teachers, developing curriculum and staff, promoting group development, and facilitating action research. It is essential for aligning organizational objectives with the needs of teachers to enhance teaching practices and ultimately boost student achievement (Lyons, 2010; Cayetano, 2011). Clinical supervision involves supervisors providing teachers with objective feedback about their instructional methods, helping to diagnose and address teaching issues, fostering a positive outlook towards professional growth (Acheson & Gall, 2003; Cayetano, 2011), and enhancing teaching and learning through constructive dialogues about instruction (Glanz, 2006; Kelear, 2008). Effective teaching is supported by clear communication between teachers and principals, with principals responsible for delivering candid feedback aimed at improving teaching quality, often achieved through clinical supervision.

Researchers describe instructional supervision as a collaborative and supportive relationship among educators that enhances the teaching and learning process. This dynamic aids in the development, execution, and assessment of educational strategies and outcomes, all facilitated by ongoing professional discussions. Zepeda (2012) characterizes instructional supervision as involving the observation, coaching, and feedback provision to teachers, aiming to improve their instructional techniques. This approach relies on gathering and analyzing data from classroom observations, which then inform the discussions and feedback provided during professional development sessions. Additionally, instructional supervision is seen as a systematic process in which teachers are coached and directed toward adopting more effective

teaching strategies, methods, and techniques. This concept underscores the importance of supervision in creating a conducive environment for professional development and educational growth.

Acheson and Gall (2011) describe instructional supervision as a process intended to improve students' learning experiences by developing teachers' instructional skills. This development is supported by organized and intentional activities, including observing and discussing teaching practices (Zepeda, 2013). Sergiovanni and Starratt (2007) also emphasize that instructional supervision should not only oversee but actively empower teachers by incorporating reflective practices and collaborative problem-solving, making it a more inclusive and supportive process.

Clinical supervision involves supervisors providing teachers with unbiased feedback on their instructional techniques, identifying and addressing teaching challenges, enhancing instructional abilities, evaluating for advancement, and fostering a positive outlook towards professional growth (Acheson & Gall, 2003). The primary goal of this process is to improve teaching effectiveness and student learning through educational dialogue (Glanz, 2006; Kelehear, 2008). The process of clinical supervision consists of three phases: initially, the supervisor collaborates with the teacher to prepare for a classroom observation. Following this, the observation is conducted in a systematic and nonjudgmental manner, with the supervisor recording data pertinent to the lesson's objectives. Lastly, the supervisor and teacher reconvene to review the gathered data, interpret its significance from the teacher's perspective, and determine the most appropriate next steps (Acheson & Gall, 2003; Glanz, 2006; Cayetano, 2011)

This study aims to investigate the impact of instructional processes and supervision on the academic performance of secondary school students in the Degema (Delga) local government area of Rivers State, Nigeria. To steer the research towards a definitive conclusion, four research questions and three null hypotheses were established. A structured questionnaire was distributed to seventy-seven (77) secondary school teachers within the Degema local government area to collect data. The data obtained from the research questions and null hypotheses were analyzed using statistical methods, including the independent t-test (both pooled and non-pooled variances) and Pearson Product Moment Correlation Statistics (Pearson r). The analysis of the data revealed that consistent instructional supervision significantly affects student performance and shows a significant relationship with instructional processes. Furthermore, instructional problems are significantly related to instructional supervision, and the classroom instructional processes employed by teachers significantly impact the academic performance of secondary school students. Conversely, the administration of the institution does not significantly influence classroom supervision, nor does instructional supervision significantly relate to the educational and academic program planning in Delga's secondary schools. Based on these findings, recommendations were made to enhance instructional processes and supervision to improve the academic outcomes of students in secondary schools within the Degema local government area of Rivers State, Nigeria.

Wanzare (2012) presents findings from a comprehensive study on the practices and procedures of internal instructional supervision in public secondary schools in Kenya. This research was part of a larger initiative aimed at gathering insights from headteachers, teachers, and senior government education officials about internal instructional supervision and staff development in these schools. The study revealed that instructional supervision is often

perceived as a mechanism for ensuring compliance with bureaucratic rules and maintaining loyalty to upper management. The advantages of such supervision practices were noted to enhance student academic performance, improve the quality of teaching and teachers, and allow supervisors to oversee teachers' instructional activities effectively. However, the study also identified significant challenges, such as inconsistency in supervision, questionable practices by supervisors, and a shortage of resources. To address these issues, the study recommended the formulation of clear instructional supervision policies, along with the provision of necessary resources, feedback, and ongoing support.

Glanz, Shulman, and Sullivan (2007) discussed the final phase of a three-part investigation into the state of instructional supervision in various public schools in New York City. Earlier phases of the research involved extensive surveys, including questionnaires and interviews, which revealed that centralized educational reforms had profoundly impacted instructional supervision. The findings highlighted that principals, burdened with numerous non-instructional responsibilities, often lacked the time to engage in ongoing and effective supervision. In many cases, the responsibility for supervision was passed to coaches who were neither trained in supervision nor had the organizational power to implement necessary reforms to ensure high-quality teaching. Teachers frequently described the supervision they received as cursory and evaluative. The researchers determined that the centralized educational system, with its prescriptive curricula and increased responsibilities for supervisors, coupled with narrow accountability measures primarily focused on holding principals (and consequently teachers) responsible for student achievement gains, had reduced instructional supervision to merely a monitoring role at best. Despite these challenges, the study also identified several instances where effective supervision and professional development practices were

implemented, leading to notable improvements in student achievement on state standardized tests, even within the constraints of bureaucracy and external non-educational pressures.

Usman (2015) investigated the effect of instructional supervision on the academic performance of secondary school students in Nasarawa State, specifically focusing on the Senior Secondary Certificate Examination. The study was guided by five research questions and utilized a descriptive survey methodology. The Instructional Supervision and Students' Academic Performance Questionnaire (ISSAPQ) was administered to 92 teachers across 37 randomly selected senior secondary schools. Data gathered was examined using 'Pearson product moment correlation' statistics (Pearson r) and t-tests at a 0.05 significance level to address the research questions. The findings indicated that consistent instructional supervision, employing thorough strategies such as checking students' notebooks, classroom visits and inspections by principals of schools, reviewing of teachers' lesson plans and notes, and monitoring of teachers' record-keeping, strongly correlates with improved teacher performance and 'student academic achievement' in secondary schools. The study recommended aligning government educational policies more closely with societal needs, providing adequate and relevant teaching materials, offering regular in-service training for teacher development, depoliticizing free education programs, and conducting proper evaluations of school administrative procedures and educational outcomes to enhance effectiveness.

The role of a school principal centers on fostering academic excellence by focusing on measurable student progress in teaching and learning. In this context, Makau, Ronoh, and Tanui (2016) explored the connection between instructional supervision of principals and student 'academic performance' in science subjects. This research specifically measured 'academic achievement' through the grades students received on the Kenya Certificate of Secondary

Education (KCSE). The study utilized a descriptive research design, targeting the school administrators and the teachers that deliver science subjects in the county of Makueni. Respondents were chosen using proportionate stratified sampling, encompassing 272 teachers on science subject matter knowledge, 68 schools and 68 school administrators. Data collection was conducted through questionnaires given to both principals and science teachers. The analysis included a correlation test to assess the 'relationship' between the extent of the principals' 'instructional supervision and the academic performance' of students in science subjects. Results indicated a strong correlation between effective instructional supervision by principals and improved academic achievement across all science disciplines.

Recently, there has been a significant increase in attention to clinical supervision processes and the training of supervisors worldwide (Veloo, Komuji, & Khalid, 2013). This surge in interest has led to a substantial amount of research that further clarifies what constitutes effective supervision practices and how best to train supervisors. Despite this progress, not all questions related to supervision have been fully resolved. According to Watkins (2012), efforts to organize the vast knowledge about supervision have predominantly followed two approaches: detailing supervisor competencies and outlining evidence-based or best practices. Both approaches are crucial in providing guidelines for both the practice of supervision and the training of supervisors, and while they are distinct, they also complement each other effectively.

Statements on competencies and best practices both serve to improve the practice of supervision in a responsible and ethical way. Rooted in both conceptual and empirical research, these frameworks adapt and evolve with new insights and knowledge. Their differences underscore how they complement each other: Competencies define the essential knowledge a

supervisor must have, while best practices focus on the application of this knowledge, detailing when and how it should be employed in supervision scenarios. Best practices offer evidence-based guidelines for the practical implementation of competencies and adherence to ethical standards.

Hanna (2010) investigated the effect of instructional leadership on the 'academic performance' of students. She conducted interviews with principals to learn more about their activities and inquired of teachers to learn more about the activities of their principals since she highly wanted to know the activities of principals ruling high performing schools. The claims made by the instructors and principals were verified by educational plans and records from each school. She categorized her research into five major categories: leadership, responsibility, perception, teaching, and communications. These high-performing school leaders shared many of the same leadership and communication philosophies. They did not want to and did not lead alone, but they did underline the necessity for frequent and providing details. Principals acknowledged the need for a well-defined vision. Hanna discovered that, out of the five general categories, the learning/achievement and accountability categories had the most impact on instructors' classroom practices and the learning of pupils. These high-performing schools' principals collabourated with teachers, had professional conversations about teaching and assessment, and supported professional growth. According to Hanna (2010), these activities are "capacity building in work teams". She also restructured the principal's role to be more focused on capacity building and less on supervision. Regarding classroom supervisions, there were discrepancies.

These schools often had good instructional leadership, according to Robinson, Lloyd, and Rowe (2008), which included a distraction-free environment, a set of precise teaching goals, and high instructor expectations for students. The meta-analysis that the researchers looked at

comparing the impacts of 'transformational and instructional leadership' on 'student achievement' across 22 of the 27 studies that were involved. The impact of instructional leadership on students' academic performance was discovered to be, on average, three to four times greater than that of transformative leadership. The following portion of the literature review will examine the Robinson, Lloyd, and Rowe study in greater detail.

A six-year study was done by Louis et al. (2010) to determine the characteristics of effective teaching methods and student achievement. In particular, the study found out that leadership practices at schools enhanced directly and indirectly to the 'academic performance' of students by giving support to the student motivation in the classroom and the learning environment as a whole. They discovered through qualitative and quantitative research that collaboration with teachers, district staff, and other principals is the key to a principal's effectiveness in achieving well-defined shared objectives. These principals feel more effective and are more assured in their ability to lead. Effectiveness is further increased by the district's regular support of collective leadership practices at the school.

Similarly, Louis (2010) also noted the improved working ties amongst the teachers, student performance is higher when principals and teachers exchange leadership. Professional learning communities can form more quickly when there is shared leadership. Instructors are more inclined to use instructional strategies that promote student learning when they are a part of professional learning communities. The findings also show that there was no predetermined model for how leadership should be distributed, but rather that the dispersion likely to depend on the aims, and the more comprehensive the goals, the more likely it was that the model would be suitable.

In addition, studies carried out in the United States by Waters, Marzano, and Mc Nulty (2003), Britain by Price Waterhouse Coopers (2006), Nigeria by Enueme and Egwunyenga (2008),

and Britain by Harris and Chapman (2002) link the completion of secondary school to efficient instructional leadership trains of principals. Research findings by Nyagosia, Njuguna, and Waweru (2013) as well as Musungu and Nasongo (2008) established a direct connection between strong performance in school exams and effective instructional leadership by headmasters, and a similar connection between poor academic achievement in Kenya and ineffective instructional leadership.

Similarly, research was carried out in Malaysia by Wahab, Mahidah, Abdullah, and Kanesan (2007) in 29 of 46 high schools in the Pulau County. 260 teachers were randomly chosen via stratified random sampling; they were given the Hallinger instructional management rating scale, which was developed in 2003. According to the study, secondary school principals in Palau County place a higher value on defining the school's mission than on any other instructional leadership practice. Some strategies, like monitoring and evaluating instruction, motivating teachers, and staff development, are even disregarded. Pinto (2014) noted that setting individual, group, and general school goals to guarantee that each student received individualized attention was the most commonly occurring instructional leadership element among schools in a southern California school system.

Further, a notable study by Mohanty and Jangira (2019) investigated the 'impact of instructional leadership on student performance' in government schools in Odisha, India. The researchers employed a mixed-methods approach, combining quantitative surveys with qualitative interviews and classroom observations. The study had drawn a sample of students, principals and teachers from 20 government schools. The 'findings of the study revealed a positive relationship between instructional leadership practices and student performance'. Principals who engaged in instructional leadership behaviours, such as providing academic classroom monitoring and instruction, and facilitating professional development opportunities, had students who

demonstrated 'higher levels of academic achievement'. The study highlighted the significance of instructional leadership in promoting effective teaching and learning practices in Indian schools. More so, Singh and Sharma (2017) carried out research project to examine the 'relationship between instructional leadership and student achievement' in government schools in Delhi, India. The researchers used a quantitative approach, collecting data through surveys administered to principals and teachers. Student achievement was measured using 'standardized test scores' in English and Mathematics. The preliminary findings of the research elucidated a positive association between instructional leadership and student achievement. Principals who exhibited instructional leadership behaviours, such as setting high expectations for teachers, providing instructional guidance, and creating a conducive environment for the school, had students who performed better academically. The study emphasized the role of instructional leadership in shaping educational outcomes in the Indian context.

Researchers Kundu and Sahni (2016) 'conducted a study to investigate the impact of instructional leadership on 'student performance' in secondary schools' in Haryana, India. The researchers utilized a mixed-methods approach, combining surveys with 'interviews and classroom observations'. This research project involved samples of principals, students and teachers, 30 secondary schools. 'Results of the study revealed a significant positive relationship between instructional leadership and student performance'. Principals who exhibited 'instructional leadership' behaviours: crafting strategic and scholastic goals, providing support and feedback to teachers, and facilitating professional development opportunities, had students who achieved higher levels of academic success. The study highlighted the 'importance' of instructional leadership in creating a conducive learning environment and improving student outcomes in Indian secondary schools. Another study by Kaur and Chhabra (2018) was aimed to examine the

"relationship between instructional leadership and student performance in private secondary schools" in Punjab, India. The researchers employed a quantitative approach, collecting data through surveys administered to principals and teachers. Student performance was assessed using academic scores in English, Mathematics, and Science. The results of the study indicated a positive correlation between instructional leadership and student performance. Principals who demonstrated instructional leadership behaviours, such as setting high academic standards, providing instructional support to teachers, and facilitating a culture of continuous improvement, had students who achieved better academic outcomes. The study emphasized the significance of instructional leadership in 'promoting effective teaching practices' and enhancing student performance in private schools in Punjab.

In Canada, an influential study by Leithwood and his team of researchers (2006) carried out research project to examine the 'relationship between instructional leadership and student achievement' in schools. The researchers used a large-scale dataset from the "International Successful School Principalship Project (ISSPP)", which included data from over 7,000 teachers and principals across various provinces in Canada. The 'findings of the study indicated a positive association' between instructional leadership and student achievement. Instructional leadership behaviours such as setting high expectations, promoting a positive school climate, providing instructional guidance, and fostering teacher professional development were found to be related to higher levels of student performance. The study 'emphasized the importance of instructional leadership' in 'shaping teaching and learning practices' and its positive impact on 'student outcomes' in Canadian schools. Robinson et al. (2013) conducted a 'meta-analysis' to "examine the relationship between instructional leadership and student achievement" in Canada. The meta-analysis included 14 studies that investigated the association between instructional leadership

behaviours of school leaders and student performance measures. The meta-analysis findings demonstrated a noteworthy 'positive impact of instructional leadership on student achievement'. Behaviours linked to instructional leadership, such as offering instructional support, establishing clear academic objectives, and fostering a positive school culture, were correlated with improved student performance. The study presented compelling evidence affirming the 'significance of instructional leadership' in enhancing student success within Canadian schools.

Similarly, Hallinger and Heck (2010) carried out a research project to investigate the "relationship between instructional leadership and student achievement in Canadian high schools". The researchers acquired data from the International Civic and Citizenship Education Study (ICCS), which included surveys completed by principals, teachers, and students, as well as 'student achievement data' in the areas of civic education and citizenship. The preliminary study findings showed a 'positive relationship between instructional leadership and student achievement'. 'Instructional leadership behaviours', such as developing high quality academic standards, providing instructional support to teachers, and creating a conducive learning environment, were associated with higher levels of 'student performance' in civic education and citizenship. The study emphasized the critical role of instructional leadership in promoting student success in Canadian high schools. Starratt and Firestone (2017) conducted a study focusing on instructional leadership in Canadian elementary schools. The researchers examined the 'relationship between instructional leadership' behaviours of school principals and student performance in literacy and numeracy. The study utilized surveys completed by principals, teachers, and students, as well as student achievement data. The 'findings of the study revealed a positive association' between instructional leadership and student performance. Instructional leadership behaviours such as setting clear academic goals, providing instructional guidance, and fostering teacher professional

development were 'found to be related to higher levels of student achievement' in literacy and numeracy. The study 'highlighted the significance' of instructional leadership in shaping effective teaching practices and improving student outcomes in Canadian elementary schools.

In order to identify which particular aspects of instructional leadership play the most significant roles, Hou, Cui, and Zhang (2019) looked at the effect of instructional leadership on high school students' school performance in the Chinese setting. In Shenyang, China, the sample includes 26 secondary schools, 26 administrators, and 4288 pupils. Revised Instructional Leadership Questionnaire of China was employed by the principals give ranking to instructional leadership (ILQC-R). Hierarchical linear models were employed in the testing of the propositions. The findings demonstrated that holistic 'instructional leadership' significantly moderated the link between students' high school entry scores and college admission scores after controlling the factors such as school setting, for student background and principal characteristics. Different influence patterns were seen in relation to the four parameters. The management of teaching, establishing the goals and mission of the school, and supporting professional development of teachers were found to have both direct and indirect effects on students' college admission scores; managing public relations had no discernible effect on students.

More specifically, Schrik and Wasonga (2019) looked into the connections between the efficacy beliefs (instructional, ethical, and managerial staff leadership) of principals at intermediate schools, with the expectation of the performance of students, and their effects on actual student performance. A survey asking on self-efficacy, expected and actual school outcomes, personal and institutional demographics, and self-efficacy was completed electronically by 250 primary school principals. The study was based on Bandura's Social Cognitive Theory. Results indicate that, in relative to self-efficacy expectations and real school academic

performance, principle outcome expectations and actual school academic achievement had higher clear associations. In contrast to self-efficacy expectation, performance expectancy predicted real school academic outcome, according to regression analysis.

Further, Ramphul (2020) carried out his study which centred on the "impact of instructional leadership on enhancing student performance in secondary schools" in Mauritius. Using a qualitative research design, the researcher gathered data by conducting interviews with principals, teachers, and students. The study revealed a robust and positive association between instructional leadership and student achievement. The qualitative data elucidated that specific leadership practices that contributed to improved 'student performance'. Effective instructional leaders were found to provide ongoing support and feedback to teachers, encourage collaboration among teachers, foster a positive school climate, and prioritize instructional improvement initiatives. The study further highlighted the importance of instructional leaders in creating a good climate environment that motivated students and facilitated their academic progress.

These results 'underscore the crucial role' of instructional leadership on developing positive educational outcomes in Mauritian secondary schools. Seechurn (2021) and his team of researchers carried out a quantitative investigation to explore the connection between instructional leadership and 'student performance' in Mauritian schools, specifically concentrating on the subject of mathematics. The researchers gathered data from a considerable number of schools and utilized statistical analyses to examine this association. The study revealed a notable and 'positive correlation' between instructional leadership and 'student achievement' in mathematics. The study also examined the mediating factors that influenced this relationship. It found that instructional leadership had a more pronounced impact on 'student performance' in mathematics when there was a strong emphasis on curriculum implementation, effective teacher collaboration, and a

supportive school climate. These findings emphasize the importance of creating an environment that complements instructional leadership practices to maximize 'student achievement', particularly in the domain of mathematics. A study 'conducted' by Garegae et al. (2018) explored 'the influence' of instructional leadership on 'student achievement' in Botswana primary schools. The researchers utilized a mixed-methods approach, including surveys, interviews, and student assessments. Research findings showed significant positive association between the 'student performance' and instructional leadership.

Schools with effective instructional leaders exhibited higher levels of student achievement in various subjects. Furthermore, the study identified specific instructional leadership practices that were associated with improved 'student performance'. These practices included providing instructional support, fostering a positive school climate, implementing evidence-based instructional strategies, and engaging in ongoing professional development. The findings of this study emphasize the significant impact instructional leadership can have on enhancing student outcomes in Botswana primary schools.

Motswae (2020) conducted a 'study focusing on the role of instructional leadership in improving student performance in Botswana secondary schools'. The researcher employed a qualitative research design and collected data through interviews with principals, teachers, and students. The study revealed a 'strong positive correlation' between instructional leadership and 'student performance'. The qualitative data highlighted specific leadership practices that contributed to improved student performance. Effective instructional leaders were found to provide guidance and support to teachers, promote collaboration and communication among staff, create a positive and conducive learning environment, and implement instructional improvement initiatives. The study further emphasized the importance of instructional leaders in motivating

students, promoting academic engagement, and supporting their overall academic progress. These 'findings underscore the crucial role' that instructional leadership brings about a positive educational outcomes in Botswana secondary schools.

In Colombia, research conducted by Sánchez and his colleagues (2017) investigated the impact of instructional leadership on 'student performance' in primary schools within the country. The researchers utilized a mixed-methods approach, including surveys, interviews, and student assessments. Research findings 'found a positive correlation' between 'instructional leadership' and 'student performance'. Schools with effective instructional leaders exhibited higher levels of student achievement in various subjects. Furthermore, the study identified specific instructional leadership practices that were associated with improved student performance. These practices included providing instructional support, promoting a positive school climate, implementing evidence-based instructional strategies, and engaging in ongoing professional development. Preliminary study findings emphasize the significant impact instructional leadership can have on enhancing student outcomes in Colombian primary schools. Gómez et al. (2020) 'conducted a study focusing on the role of instructional leadership in improving student performance' in Colombian secondary schools. The researchers employed a qualitative research design and collected data through interviews with principals, teachers, and students. The study revealed a 'strong positive correlation' between instructional leadership and 'student performance'. The qualitative data highlighted specific leadership practices that contributed to improved 'student performance'. Effective instructional leaders were found to provide guidance and support to teachers, facilitate collaboration among staff, create a positive and conducive learning environment, and promote professional development opportunities. The study further emphasized

the importance of instructional leaders in motivating students, promoting academic engagement, and supporting their overall academic progress.

Martínez and a team of researchers (2021) had undertaken a research study to explore if there is an association between 'instructional leadership and student performance' in schools across Colombia, with a particular emphasis on the subject of mathematics. The researchers collected 'data from a representative sample of schools' and utilized statistical analyses to analyze the correlation between 'instructional leadership and student performance'. Findings revealed a significant positive correlation between instructional leadership and student performance in mathematics. The study also explored the mediating factors that influenced this relationship. It found that instructional leadership had a stronger impact on 'student performance' in mathematics when there was a focus on curriculum implementation, collaboration among teachers, and a conducive learning setting. These findings highlight the importance of creating an environment that complements 'instructional leadership practices to maximize student achievement', especially in the domain of mathematics. Robinson, Lloyd, and Rowe (2008) conducted an analysis to assess the varied impacts of different leadership styles on student results. They discovered that instructional leadership in particular had a more pronounced influence on student outcomes than broader leadership approaches. Essential practices noted were the enhancement and active involvement in teacher training and development, along with the setting of clear goals and expectations. The study is distinguished by its thorough methodology and its ability to differentiate between various leadership styles and their direct impacts on student achievement.

Castillo et al. (2021) carried out a quantitative research study to explore the correlation between instructional leadership and 'student performance' in schools located in Panama, with a particular emphasis on the subject of science. The researchers collected 'data from a representative

sample of schools' and employed statistical analyses to investigate this relationship. The study found a 'significant positive correlation' between instructional leadership and 'student performance' in science. The study also explored the mediating factors that influenced this relationship.

Supovitz, Sirinides, and May (2010) explored the direct and indirect effects of instructional leadership on 'student performance', particularly in mathematics and science. Their study showed that leadership that focuses on instructional guidance, including the use of data to inform teaching and learning, significantly contributes to student success in these subjects.

Sheppard, B. (2009) emphasizes the role of principals as pedagogical leaders, arguing that their engagement with the instructional core is vital for improving student performance. Sheppard suggests that pedagogical leadership involves not just oversight but active participation in curriculum development, 'teacher professional development', and the establishment of a 'school-wide focus on student learning outcomes'. Louis, Dretzke, and Wahlstrom (2010) explored the effects of leadership practices on 'student achievement'. Their research identifies specific pedagogical leadership actions, such as fostering professional communities that focus on student learning and using data to inform instruction, as critical for improving 'student performance'. This study demonstrates how leadership that prioritizes pedagogical development can create effective learning environments.

These studies collectively affirm that pedagogical leadership is crucial for enhancing student performance. Effective pedagogical leaders actively engage with the curriculum and instructional practices, foster professional development, and ensure that teaching strategies

meet the diverse learning needs of students, thereby creating environments that support academic excellence.

In Brazil, Silva et al. (2020) conducted a 'study focusing on the role of instructional leadership in low-performing schools'. The researchers examined schools that had demonstrated significant improvements in 'student performance' despite challenging circumstances. Through interviews with school leaders, teachers, and students, the study identified key instructional leadership practices that contributed to the success of these schools. The findings revealed that effective instructional leaders in low-performing schools actively engaged teachers in professional development activities, provided ongoing support, and fostered a collaborative culture. These leadership practices encouraged teachers to implement innovative instructional strategies tailored to the specific needs of their students. Consequently, student performance improved, highlighting the crucial role of instructional leadership in transforming underperforming schools. Grissom, Loeb, and Master (2013) investigated the relationship between how school leaders manage their time and its effects on the quality of instruction and student success. Leaders who effectively allocated more time to matters of curriculum and instruction, such as mentoring teachers and assessing educational practices, were identified. The research revealed a positive link between these activities and improved student scores on standardized tests. This study enhances the knowledge of how qualitative use of time by school leaders can influence student educational results.

Additionally, Santos and his fellow researchers (2018) carried out a 'study examining the impact of instructional leadership on student performance' in schools in Brazil. These researchers employed a mixed-methods approach, including surveys, interviews, and student assessments.

Preliminary research study depicts a strong 'positive correlation' between instructional leadership and 'student performance'. Schools with effective instructional leaders exhibited higher 'student achievement' levels across multiple subjects. Furthermore, the study highlighted specific aspects of instructional leadership which were linked to enhanced 'student performance'. Of these, the establishment of clear academic goals, regular monitoring and feedback on student progress, and introducing research-based practices on instruction. 'The findings of this study' demonstrate the significant impact instructional leaders can have on enhancing student outcomes. Onyeka et al. (2020) "conducted a mixed-methods study" looking at the 'role of instructional leadership in improving student performance in Nigerian primary schools'. The researchers collected 'both quantitative and qualitative data' from multiple schools to gain a 'comprehensive understanding of the relationship between instructional leadership and student outcomes'. The study revealed a 'strong positive correlation' between instructional leadership and 'student performance' in primary schools. The qualitative data highlighted specific leadership practices that contributed to improved student performance. Effective instructional leaders were found to prioritize curriculum development, provide ongoing professional development opportunities for teachers, and engage in regular classroom observations and feedback. Additionally, the study revealed that instructional leadership played a vital role in creating a positive school climate that fostered student engagement and motivation. These findings emphasize the importance of instructional leadership in driving positive educational outcomes in Nigerian primary schools.

Ibezim et al. (2021) conducted research to investigate the correlation between "instructional leadership and student performance in secondary schools in Nigeria, with a particular emphasis on the subject of mathematics". The researchers employed a mixed-methods approach, combining surveys and interviews with teachers and students, as well as analysing

'student achievement' data. The study found a 'significant positive relationship' between instructional leadership and 'student performance' in mathematics. The qualitative data revealed that effective instructional leaders in mathematics classrooms demonstrated a deep understanding of the subject, provided clear explanations, and employed innovative instructional strategies. These leaders also created opportunities for student engagement and actively monitored student progress. The quantitative data further supported these findings, demonstrating that schools with strong instructional leadership in mathematics achieved higher average scores in student assessments. These findings underscore the 'importance of instructional leadership in promoting academic achievement' in specific subject areas, such as mathematics.

Branch, Hanushek, and Rivkin (2012) explored the connection between the effectiveness of school leadership and student success, with a special emphasis on schools that were underachieving. Their findings indicated that leaders who prioritized enhancing instructional practices had the most substantial effect on boosting student academic outcomes, notably in schools that had struggled historically with low performance. The importance of this study lies in its concentration on the role of instructional leadership within difficult school settings, demonstrating that effective leadership practices can significantly influence educational outcomes in these environments. This research not only highlights the pivotal role of leadership in improving 'student achievement' but also serves as a compelling argument for targeted leadership training and development in schools facing the most significant challenges.

In South Africa, another study Hompashe (2018) examined the views and experiences of school educators regarding how principals oversee curriculum implementation. The study delved into the principal-agent dilemma and accountability within schools in the Eastern Cape. It utilized both qualitative data from interviews with school principals and teachers, and quantitative data

from an international educational assessment. The respondents at each school consisted of the principal and three teachers from the foundation phase. To validate the interview findings, the relationship between school leadership and student academic performance in the 2015 Trends in International Mathematics and Science Study (TIMSS) for Grades 5 and 9 was analyzed. This analysis included exploring how measures of instructional leadership, such as teachers' comprehension of and success in implementing curricular goals, correlated with student scores in mathematics and science using linear probability models. The results affirmed the presence of the principal-agent problem in education, highlighting that many educators reported inadequate monitoring of curriculum delivery. The multivariate analysis indicated that instructional leadership factors like teachers' grasp of curricular objectives and their effectiveness in implementing the curriculum were significant predictors of 'student achievement', although the impact varied depending on the educational level and whether the responses were from principals or teachers. The findings suggest a policy need to recruit, empower, and support principals in fostering a culture of accountability within schools. Reddy (2019) conducted a study focusing on the role of instructional leadership in improving 'student performance' in South African secondary schools. The researcher used a qualitative research design and collected data through interviews with principals, teachers, and students. The preliminary findings revealed a 'strong positive relationship' between instructional leadership and 'student performance'. Qualitative data highlighted specific leadership practices that contributed to improved 'student performance'. Effective instructional leaders were found to actively engage in instructional supervision, provide ongoing feedback to teachers, and foster a collaborative and supportive learning environment. The study further indicated that instructional leaders who focused on supporting teachers in their professional growth and development had a significant impact on 'student achievement'.

Khosa (2012) explored how the role of school principals as instructional leaders affects student achievement in primary schools in Swaziland. The research utilized both individual and group interviews, analysis of relevant documents on instructional leadership, and observations of teaching and learning cultures within schools. The study included a purposefully selected sample of eight principals and forty teachers from eight high-performing primary schools in the Southern Hhohho region. The results underscored the critical role of principals' instructional leadership in fostering and maintaining a robust educational environment, crucial for maximizing student learning outcomes. Insights gathered from the principals and teachers led to the formulation of strategies aimed at enhancing instructional leadership to boost student performance effectively. The principal's fundamental function in primary education is to serve as an instructional leader, ensuring that the central objective of the institution—effective instruction and learning—is realized. Effective educational practices are posited to enhance pupil academic performance. Manikon and Jinot (2019) explored the influence of principals as instructional leaders on student achievement within primary schools in Mauritius, additionally examining the strategies principals might employ to foster superior teaching and learning outcomes. Employing a qualitative research methodology, the study collected data through individual interviews with principals from five primary schools in Educational Zone 1. The findings suggest that principals should act as resource providers, empower and motivate teachers, lead in-service training and learning initiatives, engage in strategic visioning, maintain robust relationships with faculty, manage student discipline, and collaboratively share responsibilities with school stakeholders. Recommendations from the study advocate for principals to be intricately involved in curriculum development and oversight, delegate administrative duties, manage time and priorities effectively, and enhance parental involvement in the discipline management of students.

Transformational Leadership

Transformational leadership is the driving force for enhancing and improving the instructional capabilities of teachers in classrooms. Using "motivation, ambition, and the ability to encourage followers to sacrifice their selfinterests for a communal goal," transformational leadership focuses on how leaders affect people (Warrick, 2011).

Okwu, Akpa, Nwankwere and Obiwuru (2011), transformational leadership is a leadership approach that has a profound impact on both societal dynamics and individual behavior. When operating at its highest efficacy, this style instigates substantial and positive transformations in followers, ultimately aiming to evolve them into leaders. Transformational leadership is a style of leadership that spur leaders to inspire, motivate, encourage and urge followers to bring about innovative rational changes that trigger success in the future (White, 2018). A management philosophy known as "transformational leadership" pushes and motivates staff to come up with fresh ideas and improve existing processes in order to advance a institution's future success (Needle, 2021). A leadership approach known as transformational leadership can encourage followers to make improvements in their own lives. The majority of transformational leaders are energetic, vivacious, and enthusiastic (Cherry, 2022).

Literature identifies leadership as playing a crucial part in organizational behaviour. It determines the destiny of the organization and has the most dramatic effect on any individual. Balwant (2017) demonstrated that transformational instructor leadership is significantly correlated with student outcomes like inspiration, perception instructor legitimacy, students' satisfaction with the instructor, attitude toward the module, and educational achievement in a meta-analytic review of the topic. Research on this research yields contradictory findings. On the other side, research has shown a connection between students' academic achievement and transformative leadership

style. For instance, leadership increases both teachers' productivity, according to Ubben and Hughes (1992), and students can encourage strong academic achievement.

Nungky Viana, Alifian, and Sampir Andrean (2020) define transformational leadership as a style that inspires and motivates employees through a compelling vision, individualized support, intellectual stimulation, and acting as a role model. Transactional leadership, on the other hand, focuses on clarifying expectations, setting performance goals, and providing rewards or punishments based on compliance or deviations from standards. Li and Liu (2022) pointed that principal transformational leadership refers to leaders who inspire and motivate teachers through a compelling vision, individualized support, and intellectual stimulation. According to Duraku and Hoxha (2021) transformational leadership involves inspiring and motivating followers, while transactional leadership focuses on setting clear expectations, providing rewards or punishments based on performance, and maintaining compliance. According to Sihombing (2020) transformational leadership involves inspiring and motivating followers, while work discipline refers to the adherence to rules, procedures, and professionalism in the workplace Prestiadi, Gunawan, and Sumarsono (2020) underscores the significance of transformational leaders in leading educational institutions through the challenges and opportunities presented by the integration of digital technologies and innovative practices. Kwan (2020) questions the assumption that transformational leadership alone is sufficient for achieving positive student outcomes and explores the potential synergistic effects of combining instructional and transformational leadership.

Transformational leadership has gained significant attention in educational research. This leadership style, as defined by Leithwood et al. (2019), involves leaders who inspire and motivate others, create a shared vision, and foster a positive school culture. Transformational leaders

influence their followers by challenging and empowering them to achieve exceptional performance. According to Duyan and Yildiz (2020) transformational leadership is characterized by leaders who inspire and motivate followers, create a compelling vision, provide individualized support, and stimulate intellectual growth.

Di Vincenzo's (2008) investigation into administrators' transformational leadership styles and student performance. He did not discover any statistically significant association between the traits of the leaders. Huffman (2003) had revealed that there had not been any connection between transformational leadership philosophies and increased 'student performance' by the use of "Multifactor Leadership Questionnaire" by Bass and Avolio in 1994. But it was found that transformative leadership was associated with improved academic achievement and effective teaching.

The phenomenon of transformational leadership was first adopted by Burns (1980), has evolved significantly and is now widely applied even in industrial psychology. According to Burns, transforming leadership occurs when both the leader and the follower elevate each other to higher levels of motivation. Acknowledging the challenges in distinguishing between leadership and management, Burns noted that these differences lie in specific traits and behaviors. He initially defined the ideas of transforming leadership, which subsequently developed into the concepts known today as transformational and transactional leadership, both of which have remained consistent over time. Burns believed that this perspective of leadership significantly changes the dynamics between leaders and followers by reshaping their perceptions and altering their expectations and aspirations.

Over the past three decades, research into transformational leadership has expanded. Originally proposed by Burns in 1978, the theory was later refined and expanded (Bass, 1985)

redefined it by emphasizing that this leadership style transcends the simple exchanges of rewards for efforts. Transformational leadership, according to Bass, enhances the relationship between leaders and followers by focusing on fulfilling higher needs, thereby fostering followers' growth into leaders themselves.

In practical terms, transformational school leaders view the members of their organization as a valuable reservoir of ideas and knowledge. They believe that by fostering a motivating environment within the school, they can unlock this potential. Such leaders continuously encourage the growth and active participation of all school members. This enables teachers and other staff to acquire new roles and skills that are essential for developing the organization's human capital (Owen, 1998; Sergiovanni, 1995).

Leithwood, Jantzi, and Fernandez (1993) made significant contributions to educational leadership with their development of a six-factor model tailored for K-12 education. This model is rooted in the principles of transformational leadership, which they adapted to specifically address the needs and dynamics of the educational environment in primary and secondary schools. Here's an overview and discussion of the six-factor model they proposed. In practice, the six-factor model provides a framework for principals and school leaders that is particularly beneficial in diverse educational settings. It offers a structured yet flexible approach to leadership that can adapt to the specific needs of different schools. Importantly, this model underscores the critical role of leadership in shaping educational outcomes and supports the idea that effective school leadership directly correlates with improved student performance. This model serves as a practical guide for school leaders aiming to enhance their instructional leadership and thereby improve their school's educational outcomes. This model remains relevant and is often referenced in discussions and training on educational leadership due to its proven impact on school effectiveness.

Studies on the models by have yielded inconsistent results (Bass & Avolio, 1995; Leithwood & Jantzi ,1999). No clear evidence linking transformational leadership directly to higher 'student achievement' has been mentioned. Greb (2011) points out that large-scale studies show only a weak statistical 'relationship between transformational leadership and student engagement'. While it is widely recognized that high levels of 'student engagement correlate' with improved 'performance' on state tests, there is no conclusive evidence directly linking transformational leadership to enhanced student academic outcomes. Indeed, some scholarly studies have indicated a potential negative relationship between transformational leadership styles and 'student achievement'. However, it is possible that transformational leadership may indirectly benefit student achievement, particularly when integrated with other leadership approaches like contingent rewards.

Although the results regarding the effectiveness of transformational leadership in educational contexts are varied, the endorsement of this leadership style within the field of education remains robust. Over nearly thirty years of research into instructional leadership, numerous studies have demonstrated significant positive correlations and identified attributes that beneficially influence student learning and achievement (Hallinger &Heck, 1998). The limited number of studies that directly connect these two specific areas of leadership may suggest a research gap within the discipline of educational leadership. Furthermore, the success of leadership initiatives seems to depend as much on the focus of the leadership efforts as on the techniques employed by leaders. This emphasizes the complexity and contextual nature of leadership efficacy in educational settings, suggesting that the strategic aims of leadership are pivotal to realizing its potential benefits.

The degree to which a leader can influence their followers is a key indicator of transformational leadership. Leaders of this type gain the trust, admiration, loyalty, and respect of their followers, who in turn are often inspired to exceed expectations. Bass (2008) contributed significantly to the development of transformational leadership, identifying four core elements that define this style: Intellectual Stimulation, Inspirational Motivation, Idealized Influence, and Individual Consideration. The impact of transformational leadership is assessed based on its effects on followers, who not only admire, trust, and respect the leader but are also motivated to perform beyond what is typically required (Avolio, 1999).

Transformational leaders are often charismatic, a crucial trait for garnering support from employees. Leaders with transformational qualities also demonstrate innovation and creativity, which are valuable in managing challenging situations. Moreover, they exhibit motivational behavior by communicating the strategic vision of the organization to their followers, a practice that facilitates the successful achievement of tasks and goals (Kreitener, 1998). Such leaders inspire their subordinates to align with the organizational strategy and vision laid out by the leader, fostering a commitment to accomplishing assigned tasks that contribute to the broader organizational objectives. Additionally, transformational leaders engage in relational or interpersonal behavior that involves a personalized understanding of each team member, instilling a sense of belonging and pride that enhances performance (Gordon, 1995).

Layton (2003) found that transformational leadership among the school administrators in Indiana did not correlate with improvements in student learning as assessed by Indiana's 'achievement tests'. However, there was a positive relationship between transformational leadership and teacher satisfaction, teachers' perceptions of principal effectiveness, and their

willingness to go above and beyond in their efforts. Niedermeyer (2003) discovered comparable outcomes in his study.

Overall, research into the effect of principal 'transformational leadership on student achievement' presents mixed and sometimes inconsistent findings. While 'some studies' have identified significant correlations between principals' transformational leadership and student 'academic performance' based on teacher assessments (Edington & Di Benedetto, 1988; Sillins, 1993), or have suggested potential links between 'transformational leadership' and student achievement (Leithwood, 1994; Sergiovanni, 1990), not all research supports a direct effect of principal leadership on student learning outcomes. For instance, Valente (1999) indicated that the influence of principals' leadership on student test scores was not statistically significant. Similarly, Barnett and colleagues (1999) found that certain transformational leadership behaviors, such as promoting a 'vision', could negatively affect students' intrinsic motivation for learning. Hoernemann (1998) also reported no connection between transformational leadership and improved student learning outcomes as measured by performance on annual achievement tests in Indiana, regardless of the school's contextual factors. However, contrasting findings from another Indiana study by Philbin (1997) showed that transformational leadership was associated with increased student learning in schools situated in areas with the highest socioeconomic status, but not in those with the lowest.

Moreover, it was noted that meta-analyses in this field are limited. One such rare meta-analysis by Witziers, Bosker, and Kruger (2003) investigated the impact of educational leadership, which encompasses transformational leadership, on student outcomes across various international research studies. This analysis identified positive relationships between educational leadership and student outcomes.

Despite the mixed results, substantial evidence still supports the significance of transformational leadership in fostering effective schools. Many studies have shown a positive connection between transformational leadership in schools and various measures of leadership effectiveness or educational outcomes, such as follower satisfaction, motivation, and 'student performance'. However, there are still unresolved questions regarding whether the effect sizes are consistent across different studies and the overall robustness of these effect sizes.

Ngunji (2018) conducted research to examine the impact of principals' transformational leadership styles on students' 'academic performance' in Lari Sub County. Transformational leadership, as defined by Avolio (1999), is a theory centered on the interactions between leaders and their followers within an organization, encompassing four key elements: 'idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration'. This study aimed to assess the effects of these leadership traits of principals on academic outcomes. It also considered various other factors such as the principals' gender, age, education level, and tenure at the same school. Conducted in Lari Sub County, the study utilized purposive sampling given the small and homogeneous nature of the target population. A linear regression analysis was employed to evaluate whether the transformational leadership of principals significantly affected academic performance. The findings revealed that a principal's idealized influence was correlated with academic performance by 31.7%, and the r-square value showed that this form of influence accounted for 10.0% of the variance in 'academic performance'. The study demonstrated a significant relationship between transformational leadership traits of principals and student academic performance. The regression analysis for the principal's inspirational motivation showed a 39.3% correlation with student performance, and this trait alone explained 15.5% of the variation in academic performance, with the regression model significant at $F = 10.411$, $p = 0.043 < 0.05$.

Additionally, the principal's intellectual stimulation was even more strongly correlated with academic performance at 54.6%, accounting for 29.8% of the performance variation, reflected in the regression model significance of $F = 13.723$, $p = 0.028 < 0.05$. Furthermore, individualized consideration by principals had a 45.6% correlation with academic performance and explained 20.7% of the variation, with a significant model at $F = 11.171$, $p = 0.041 < 0.05$. Overall, the findings of the study indicated that the various aspects of principals' transformational leadership positively influenced 'student academic performance'.

Researchers, including Chin (2007), have posited that 'transformational leadership plays a salient role for the schools' effectiveness, yet questions about the consistency of effects across different studies and the strength of these effects persist. To tackle these concerns, a meta-analysis was performed, aggregating results from 28 separate studies to assess the overarching effect of transformational leadership in schools on three critical educational outcomes. The findings indicated that transformational leadership tends to positively affect teacher job satisfaction, teacher views on school efficacy, and student academic performance, as demonstrated by the positive average effect sizes observed.

Johnson et al. (2017) investigated the effects of transformational leadership on student outcomes in urban schools.focused on urban schools with high levels of poverty and challenges. It used a combination of surveys, interviews, and student performance data. The study found that transformational leadership helped mitigate some of the negative effects associated with high-risk school environments, leading to better student outcomes in terms of both academic and non-academic measures. The empirical evidence consistently supports the positive impact of transformational leadership on student outcomes. These studies collectively highlight how transformational leaders can influence various aspects of school performance, including 'academic

achievement', through visionary leadership, fostering a supportive school culture, and adapting their strategies according to the specific challenges and needs of their schools.

Likewise, a study conducted by Azam and Natyada (2012) within private religious schools in South Thailand found a connection between transformative leadership and academic accomplishment. According to Kappen's (2010) research, there is an association between intrinsic drive and transformational leadership that is favourable. Cunha, Coelho, and Lemos (2018) had undertaken their research study to rigorously look at the impact of 'transformational leadership on student performance' in Brazilian universities. These researchers gathered their data using a sample of students in undergraduate faculties and utilized questionnaires to assess 'transformational leadership behaviours and student achievement'. Preliminary findings portrayed a significant 'positive relationship between transformational leadership and student performance'. It was found that transformational leaders, through their vision, charisma, and supportive behaviours, fostered a conducive learning environment that enhanced student engagement and academic achievement. Ferreira, Oliveira, and Pereira (2020) conducted a study to explore the relationship between 'transformational leadership and student performance' in Brazilian primary schools. The researchers collected data from a sample of primary school students and employed teacher ratings and 'standardized test scores to measure student performance'. The results revealed a 'positive correlation between transformational leadership and student performance'. The research highlighted that transformational leaders, through their ability to inspire, stimulate intellectual growth, and offer individualized support, fostered a positive learning environment that positively affected students' academic achievements. Farias and Guimarães (2021) conducted a study in Brazilian secondary schools, focusing on the impact of teacher-student relationships, to examine the link between transformational leadership and student performance. Data were

collected 'from a sample of secondary school students' using 'self-reported questionnaires' to assess transformational leadership behaviours and students' perceptions of teacher-student relationships. Study findings showed a significant positive connection between transformational leadership and 'student performance', with positive teacher-student relationships serving as a mediator. The study emphasized that transformational leaders who cultivate positive relationships with students contribute to improved academic outcomes.

Ngunyi (2015) conducted a study. The main aim of this project was to investigate the impact of principals' transformational leadership styles on students' 'academic performance' in Lari Sub County. This concept, transformational leadership, as conceptualized by Avolio in 1999, involves a specific set of behaviors and traits that enhance the interaction between leaders and followers within an organization. This leadership style includes four key elements: 'idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration'. While transformational leadership has been linked to high performance in the business sector, there has been limited research on its effect on 'academic performance' in Kenya, particularly in Lari Sub-county. The research study 'aimed to assess the influence' of principals' transformational leadership on academic outcomes. The relationship between these variables was analyzed using SPSS software and a linear regression method to determine the significant impact of the principal's transformational leadership on student 'academic achievement'. The findings indicated that transformational leadership by principals positively affects students' 'academic performance'.

Moreover, Brown, Shatzer, Hallam and Calldarella (2014) contrasted the theories of 'transformational and instructional leadership', looked at the particular influence administrators of schools have on 'student performance', and identified the 'specific leadership' behaviours that are linked to higher student performance. 590 instructors from 37 elementary schools in the

Intermountain West of the United States made up the sample for this research. Using the 'Principal Instructional Management Rating Scale and the Multifactor Leadership Questionnaire', teachers evaluated their principals' leadership abilities. A test with criteria was used to gauge student achievement. With the use of regression analysis, hypotheses were examined. The findings showed that instructional leadership rather than transformative leadership better explained the variation in student accomplishment. Over and above the effects of the school environment and the demographics of the principal, the leadership style of the principle often had a significant impact on student progress. Particular leadership responsibilities linked to improved student performance were also found and reported. Also presented are the conclusion, ramifications, and limits.

Nevertheless, the majority of the study findings stated here revealed that transformational leadership positively influenced student motivation and subsequently led to higher levels of academic achievement. Schools with transformational leaders who inspired and motivated their staff and students had students who reported greater academic engagement and demonstrated an enhanced 'academic performance'. This study reiterated the role of transformational leadership in creating a supportive and empowering environment that enhances student outcomes.

Kariuki (2018) conducted a study investigating the influence of transformational leadership on student performance in Kenyan secondary schools. The research employed surveys administered to teachers and students in several secondary schools across Kenya. The study examined the leadership behaviours of principals and their impact on student academic achievement. The findings indicated that transformational leadership practices positively influenced student performance. Schools with transformational leaders who demonstrated behaviours such as providing vision, promoting individual growth, and fostering a supportive climate had students who showed 'higher levels of academic achievement'. The study highlighted

the importance of transformational leadership in creating a positive school environment that supports student learning and success.

A 'meta-analysis of studies examining the relationship between transformational leadership and student outcomes, including performance', in the education sector were conducted by the researchers of Leithwood and Jantzi as stated earlier. The analysis included studies conducted in various countries, including the Netherlands. The findings indicated a 'significant positive relationship between transformational leadership and student performance' across the studies. The meta analysis supported the notion that transformational leadership practices, such as setting high expectations, providing support, and fostering intellectual stimulation, are associated with improved academic outcomes for students.

More so, a study by Ololade (2017) examined the 'impact of a certain transformational leadership style used by Montessori school principals on the academic performance' of students. There is little study on the effect of the transformational leadership style of Montessori principals on students' academic achievement; the majority of the literature on principals in South Africa emphasizes on the leadership style of principals of public schools. Since Montessori schools are a rising international trend and a principal's leadership style plays a critical role in the development of educational quality and outcomes, the importance of this study transcends territorial limitations. A simple random sampling technique was used to distribute questionnaires to chosen school instructors in order to acquire quantitative data.. In this quantitative study, hypotheses were tested, and the significance of the issue and research topics was estimated. The mediated-effect model serves as the foundation for the study's theoretical approach. This study emphasized the significance of a principal using a transformational leadership style and the enormous potential it

possesses. Owners, public educational institutions, and principals would all profit from the study's conclusions.

The literature provided here on school leadership and 'student performance' delves into various aspects of school leadership, with a particular focus on how it correlates with student performance. The overarching theme suggests that leadership, both in form and practice, significantly influences educational outcomes. Various studies present evidence of the indirect yet pivotal role school leadership plays in creating conducive learning environments that ultimately enhance 'student achievement'. More so, the literature discusses different leadership styles, such as transformational and transactional, suggesting that school leaders' practices can predict educational success to varying degrees. The specific impact of leadership styles like instructional and transactional on 'student performance' is emphasized, with studies indicating that such leadership is associated with positive educational outcomes. The literature seems to advocate for leadership that not only manages but also transforms, guiding teachers and students towards improved 'performance'.

Teacher Quality and Academic Performance

Recently, the topic of teacher quality has drawn a lot of attention from the general public. Parents and other education stakeholders, as well as the broader public, are now calling for quality in the educational system, maybe as a result of the perceived low quality of the goods that are consistently produced by the institutions (Yasin, 2020). The substantial variance in the instructional effectiveness of teachers is well-documented, yet the specific teacher qualities that contribute to this variance remain less clear. Metzler and Woessmann (2012) leveraged a distinctive dataset from Peru, which included test results from both sixth-grade students and their teachers in mathematics and reading, to analyze the causal influence of a

teacher's 'subject knowledge' on student learning. By examining teachers who instructed both subjects within single-classroom schools, the researchers mitigated confounding variable biases and selection issues through the use of a correlated random effects model. This model drew on the disparities across the two subjects taught by the same teacher. They discovered that, after adjusting for measurement errors, a one standard deviation increase in a teacher's subject-specific knowledge corresponds to approximately a 9% standard deviation increase in student math 'achievement'. In contrast, the impact on reading achievement was markedly smaller and generally not statistically significant. Additionally, the influence varied based on the match of teacher and student abilities, as well as their gender. The concept of teacher quality has evolved significantly over the centuries, reflecting broader changes in educational theories, policies, and societal expectations. Historically, the notion of what constitutes a "quality teacher" has been influenced by various factors including educational philosophy, pedagogical methods, and political and economic conditions. In the early days of formal education, during the medieval period, teacher quality was often assessed based on one's mastery of religious and philosophical knowledge, with teaching often relegated to clergy and scholars (Cubberley, 1920). As education systems expanded during the Renaissance, there was a shift towards the liberal arts, and teacher quality began to include a broader base of knowledge and the ability to cultivate critical thinking (Lucas, 1999).

With the advent of compulsory education laws in the 19th century, particularly in the United States and Europe, there was a significant need for more teachers, which initially led to a diverse range of teaching competencies. During this period, normal schools—precursors to modern teacher colleges—were established to provide formal teacher training, emphasizing

both subject matter knowledge and pedagogical skills, marking a foundational shift in the definition of teacher quality (Fraser, 2007).

The 20th century introduced more rigorous standards for teacher preparation, influenced by educational psychology and a growing understanding of child development. Scholars like John Dewey emphasized the role of teachers in fostering an environment conducive to learning through experience, thus broadening the attributes of teacher quality to include interpersonal skills and adaptability (Dewey, 1904).

In recent decades, the discourse around teacher quality has been dominated by the standards and accountability movement, which began in earnest in the 1980s. This movement has led to the development of standardized teacher certification exams and performance evaluations based on student outcomes, reflecting a shift towards empirical assessments of teacher effectiveness (Darling-Hammond, 2000).

Teacher quality is often conceptualized as a combination of various competencies including subject matter expertise, pedagogical knowledge, technological proficiency, and the ability to adjust teaching methods to meet diverse student needs (Danielson, 2013). The importance of ongoing professional development and reflective practice has also been emphasized as critical to maintaining and enhancing teacher quality over the course of a career (Schön, 1983).

Moreover, Metzler and Woessmann (2012) noted that research on the determinants of 'student achievement' has approached the question of teacher impact from two angles: evaluating the influence of teachers as a collective group and assessing the influence of specific

teacher characteristics. With the advent of comprehensive longitudinal data, a consensus has emerged within the first area of study, confirming that the overall quality of teachers plays a significant role in student achievement outcomes. This suggests that teachers markedly differ in how effectively they contribute to student learning.

Rockoff, Jacob, Kane, and Staiger (2008) utilized a unique dataset that included information about teachers' scores on licensure examinations as a proxy for subject knowledge. The researchers found that primary school teachers with higher scores in their licensure exams, particularly in mathematics, had students with higher achievement in math. This study underscores the importance of subject-specific knowledge in teacher effectiveness.

Rivkin, Hanushek, and Kain (2005) utilized a massive dataset from Texas to examine the variability in teacher effectiveness and its impact on 'student achievement'. The authors conclude that teacher quality significantly affects 'student performance', with the most notable effects observed in math. The study also found substantial differences in teacher effectiveness within schools, suggesting that teacher quality is a critical factor in 'academic achievement' at the individual level.

Kraft and Dougherty (2013) explored the impact of teacher engagement with student families on 'academic performance'. The researchers conducted a randomized field experiment that measured the effects of a program designed to increase teacher-parent communication on 'student achievement' in primary schools. The results indicated that increased communication between teachers and parents led to significant improvements in student performance, emphasizing the role of teacher engagement beyond traditional classroom instruction. Chetty, Friedman, and Rockoff (2014) investigated the long-term impact of teacher quality on student outcomes, including college attendance and earnings. By analyzing a large dataset from a large

urban school district, the authors found that students assigned to high-value-added teachers were more likely to attend college and had higher earnings in adulthood. This study highlights the enduring impact of effective teachers on student success beyond primary school.

Given the enormous amount of money that is invested in the system, the desire for high-quality education is not out of place. Obtaining a quality education through great teaching is important for more than just getting good grades; it also helps students develop the morals, knowledge, and abilities that will make them contributing members of society (Mustafe, 2019). To accomplish this goal, education must be of a high calibre, that necessitates not only passing exams (which are typically given top priority), but also the development of skills (in the intellectual functioning, efficacious, and psychomotor domains) through positive classroom systems' ability to promote and enable the work of teachers and students. The only way the school can accomplish this challenging goal is by hiring experienced instructors who have what it takes to communicate with students in a teaching-learning environment and deliver high-quality instruction. Any nation's level of development is based on the calibre of its educational system. The teacher is the most significant individual in a school setting and at the soul of educational paradigms. Teacher is believed to be a significant individual in the entire educational process, and he or she has the power to make or split the best educational endeavour on earth. Thus, education is what teachers make of it. As a result, the foundation of an effective educational system includes teachers who are capable, committed, and trained professionals. In other words, effective teachers play a critical role in achieving national goals for students' sufficient preparation for tests and the advancement of learning.

Student performance has been the subject of numerous scientific investigations to gauge the outcome of education since the Coleman Report (1966), which examined student performance

as measured by standardized exams and teaching materials in connection to quality of education. Today's policymakers, academic facilities, parents, and other education stakeholders frequently use standard examinations as metrics of educational outcomes instead of student's attitude, drop - out rates, and attendances. Parents probably want to enrol their kids in schools with high accomplishment scores, and colleges may also be open to accepting students with such scores. On the other hand, politicians typically use student academic performance as a purpose and lobbying tool to capture the attention and support of the people when vying for elections. They put great emphasis on evaluating the efficiency and effectiveness of the educational programs in the country. Numerous studies are carried out to analyse the determining factor affecting this variable in an effort to increase student accomplishment. Instead of doing extensive and diverse studies, it can be categorize the variables influencing student accomplishment into a few categories, including family status, school facilities, and environment beyond the home and classroom.

Numerous studies demonstrate that teachers' quality is crucial to students' achievement. The most often asked questions on teaching qualities centre on how teachers might improve the calibre of their students. Darling-Hammond (2000), Milanowski (2004), Rockof (2004), and Dobbie (2011) all looked into this issue. Kane, Rockoff, and Staiger (2005), as well as Rivkin, Hanushek, and Kain (2008). The results of all of these studies are consistent: instructor characteristics have a big impact on how well students do. The factors that the researcher pays close attention to in regard to teacher quality are education foundation, expertise, certification status, leadership capabilities, persistence, performance appraisal score, and readiness for class work. Teachers with strong content knowledge have a deep understanding of the subjects they teach, enabling them to deliver accurate and meaningful instruction (Hiebert & Grouws, 2020).

Student-centred teachers prioritize student agency, autonomy, and active engagement in the learning process (Liu et al., 2020). Effective teachers engage in collaborative activities with colleagues, such as professional learning communities (PLCs) and peer observations, to share insights, exchange best practices, and enhance their instructional approaches (Fives & Buehl, 2020). Teachers should have the ability to understand and address the 'social and emotional needs of their students' (Brackett et al., 2019).

According to educational researchers, teacher quality a crucial component that constitutes many important aspects. Effective teachers tailor their instructional approaches to meet the diverse learning needs and interests of their students (Tomlinson, 2017). According to Desimone et al (2019) Effective teachers engage in ongoing professional development, stay abreast of current research, and adapt their instructional practices based on evidence. They engage in reflective teaching practices, critically examining their instructional decisions and seeking feedback to improve their teaching effectiveness. Evidenceinformed practice and reflective teaching enable teachers to continuously refine their instructional approaches and meet the evolving needs of their students.

Hanushek (2022) starts off his examination of teacher quality with some data demonstrating its significance before moving on to suggestions on how to raise teacher quality. The interaction between rewards and responsibility is the focal point of the entire discussion. Simply said, student achievement should be the focus of policy if the goal is to improve student achievement. From a policy standpoint, the researcher thinks that the federal government should be doing vital things even though the appropriate role for various levels of government has been debatable. Despite this, these things diverge significantly from both the goings-on right now and many of the topics that are being addressed. Hanushek claims that thorough investigation over the

previous 35 years has produced two obvious conclusions. Firstly, teachers differ greatly in a number of significant ways. Many parents are naturally not surprised by this discovery because they are aware of the variations in instructor quality. Second, standard teacher evaluation systems do not account for these disparities (qualifications, experience, and the like).

The extent of the variations among professors is striking. The research also offered two additional measures of instructor quality. He adopted a straightforward definition of teacher quality for these metrics: good teachers are those who see significant increases in student accomplishment for their classes; ineffective teachers are the exact reverse. Instructors near the top of the performance distributions can pull an additional year's worth of learning out of their students with regard to those near the bottom when examining at the variety of quality for teachers inside a single large urban district. That is, for a single academic year, a competent teacher will gain one and a half grade-level equivalents, whereas a lousy teacher will only earn half that amount. In contrast, if researchers only consider the variations in student achievement brought on by varying teacher quality within a typical school, then switching from a teacher at the middle of the pack to one at the top 85th percentile of teaching staff would suggest that the stronger teacher's students would advance more than 7 percentile rating in the year in the United States.

Although most policies lack solid empirical backing, a large portion of education policy is focused on enhancing teacher quality. Hanushek, Kain, Brien, and Rivkin (2005) estimated teacher valuation, our indicator of teacher quality, using gains in student performance. The data finds significant diversity in instructional quality, most of which happens within schools rather than between them. Although advanced degrees or certifications don't seem to have any bearing on a teacher's ability, experience does, but only within the first year of employment. The researchers also discovered that while effective teachers typically work well with pupils of various skill levels,

there is benefit to matching students and teachers according to race. In the second section of the analysis, the researchers demonstrated that teachers who remain in our sample of urban schools have an average or higher quality of teaching than those who leave. The addition of additional first-year instructors is the primary consequence of high turnover. Last but not least, there is little to no proof that districts with better pay and working conditions recruit teachers of higher calibre among those who leave the central city district. The overall findings have a number of clear policy consequences for work as a teacher and school disciplinary designs.

The significance of teacher quality in enhancing students' academic achievement and educational experiences is highlighted by recent research, but Ingvarson and Rowe (2008) contend that systematic and constructive issues related to the conceptualization and evaluation of teacher quality remain unresolved. These flaws are particularly glaring in assertions for "results" obtained from econometric study, notably in studies that just use conceptualizations and proxy "measures" of quality in terms of instructors' training, expertise, and academic results. In addition, the available, largely aggregated data-fitted econometric models frequently fall short in conceptualizing and "measuring" teacher quality in terms of what instructors should know (content knowledge) and be competent to do (pedagogical skill). These approaches also lack to take into consideration the measuring, redistributive, and organizational characteristics of the data for the causal and response variables, flaws that far too often lead to incorrect interpretations of the results for both policymakers and practitioners.

Dexter's (2021) research looked at various facets of the connection between student performance and teacher quality. These measures of teacher quality were based on factors such as total focuses on a particular, teaching experience, licenses, and education degrees. This study looked at three primary schools in the Metropolitan Nashville Public Schools to see if there was a

connection between teacher quality and student performance. This study used a quantitative correlational research design. In order to ascertain the relationship between student accomplishments for the countywide testing in 4th grade English Language Arts and the succeeding teacher quality elements: teacher performance rankings, classroom instruction, teacher credentials, and teacher higher degrees, a statistical analysis was carried out. Four Pearson product-moment correlation coefficient ® tests made up the study. 379 participants who administered the state's 4th Grade TNReady Assessment for the academic years 2017– 2018 and 2018–2019 were counted in the student statistics. In especially for instructors with a specialty degree, the findings demonstrated a statistically significant association between teacher degree levels and student accomplishment. The student mean scores for teachers with a specialized degree were higher than the student mean ratings for instructors with a bachelor's or post graduate diploma. Future studies on teacher effectiveness and student accomplishment in relation to teacher degree level may benefit from the findings of this study. If school districts and principals keep looking into the connection between assigning teachers with advanced degrees in other elementary disciplines like mathematics and science and student performance.

Ko and Chung (2014) conducted a study to determine how the academic achievement of hospitality students was impacted by the instructional effectiveness of culinary arts instructors and student learning satisfaction. This study polls students at Taiwanese colleges' hospitality programs. They received a total of 406 (81.2%) survey respondents. The findings of the research indicate that there is a significant positive relationship between the instructional quality teachers and students' education enjoyment, between the quality of teaching of educators and the educational achievement, and between students' learning satisfaction and their academic achievement. The

association between teachers' teaching effectiveness and students' academic success is mediated by students' decent amount.

In Sekondi Takoradi Metropolitan Assembly Junior High Schools, Bonney, Amoah, Micah, Ahiamenyo, and Lemaire (2015) looked into the connection between learners' academic achievement and the calibre of their teachers. The target population for the descriptive study was the instructors and students of junior high schools in the city. Five educational circuits in the city were chosen at random to participate in the study. Participants were sampled using stratified and methodical sampling approaches, with a sample size of 500. The primary instrument for gathering data was a questionnaire. Using Pearson Correlation, data was analysed along with ANOVA, means, variance and percentages and standard deviation.

In Grade 4 students at 91 urban primary schools and 181 rural primary schools in Kenya, Barasa (2020) investigates the association between teacher quality and student achievement in mathematics. According to our assumption, there is a strong correlation between teacher performance measures and student accomplishment. These indicators include teacher traits, teacher qualifications, which include initial teacher training and professional development, and teacher instructional methods. Statistics from the 2012 World Bank and African Economic Research Consortium Service Delivery Indicators served as the foundation for their analysis. They used a multivariate regression to test our hypothesis. They discovered that school performance in mathematical in Kenya is significantly impacted by teacher quality measures. Primary schools in urban and rural areas have different benefits. The results of this study highlight the necessity for governments to concentrate on enhancing initial teaching programs and in-service programs in order to improve teacher quality.

Ideally, equal learning opportunities for all pupils are a key policy objective in all nations. Every child has the chance to receive a top-notch education. Teachers play a crucial role in raising the standard of elementary and secondary education. A study by Kawuryan, Sayit, and Dwiningrum (2021) is based on secondary required data gathered from a variety of sources, including policy statements that are pertinent to study subjects that still pertain in Indonesia, publications from national journals published between 2010 and 2020, reviews from different government agencies, including the Central Statistics Agency and the Ministry of Education and Culture, reports from international institutions, including the World Bank and UNESCO, and publications from national journals published between 2010 and 2020. To increase the accuracy, these data are triangulated, reviewed, and supported by supportive evidence. A small disparity exists between urban and rural schools, but overall, equity schooling in Indonesia, as assessed by extend accessibility, fair access, and effective environment, exhibits optimistic outcomes.

In previous studies of primary and secondary grade levels in the United States, teacher quality and student performance have showed positive connections. Nevertheless, there is little research on the relationship between student accomplishment and teacher quality in postsecondary vocational and technical education (CTE). The literature claims that pedagogical expertise, educational attainment, and professional growth are indicators of a teacher's quality. Work experience is a prerequisite for hiring for tertiary CTE teachers in order to ensure teacher quality. Testing results and student performance serve as indicators of student performance. With the use of an industry-specific licensure exam, tertiary career certifications often conduct a comprehensive assessment that determines the student's employment in the program's study area in accordance with industry norms. This historical comparative study aimed to investigate the association between tertiary CTE instructor quality and student outcomes. A study of 203 tertiary CTE

instructors in Florida was done online (Martino, 2021). The results showed a statistically significant positive correlation between students who passed an industry qualifying exam and the tertiary CTE teachers' level of pedagogical understanding and degree completion. This result is in line with earlier research conducted in K–12 grades. To enhance student learning results, postsecondary CTE teachers should increase their pedagogical expertise and level of education.

Kyriakides and Creemers (2008) conducted a 'meta-analysis of studies examining the relationship between teacher quality and student achievement in European countries'. The analysis included studies from various European countries, such as Germany, the Netherlands, and Spain. The findings indicated a 'significant positive relationship' between teacher quality and student performance across the studies. The meta-analysis highlighted that teachers who possessed strong subject knowledge, pedagogical skills, and classroom management strategies positively influenced student academic outcomes in Europe. Klette, Bøe, and Hertzberg (2019) conducted a study to investigate the relationship between teacher quality and student performance in Norway. The study collected data from a sample of schools and employed student achievement tests to measure student performance. Teacher surveys and classroom observations were utilized to assess teacher quality, including pedagogical competence, subject knowledge, and classroom management skills. The findings indicated a positive association between teacher quality and student performance in Norway. The study emphasized the importance of effective teaching practices in fostering student achievement.

Furthermore, Oviawe (2020) used a correlational survey research design to examine the teacher's impact effectiveness and professional growth on academic performance of students in drawing programs in Nigeria particularly colleges in Edo State. The study's sample size consisted of 150 technical drawing students and 20 technical teachers who were chosen at random to

participate in the study. Data was gathered using two tools created by the researcher: The Technical Drawing Achievement Test and the Teacher Quality and Professional Development Questionnaire (TQPDQ) (TDAT). Three specialists approved the tools. Using the test-retest method, respective reliabilities were TAD; 0.76; TQPDQ; 0.86. Multiple regression was used to examine the data that was collected. According to the study's conclusions, there is a strong positive correlation between students' academic achievement in technical drawing and teacher quality, even though there is only a small percentage of variance in students' academic achievement in technical drawing that can be credited to teacher quality. Due to instructors' inadequate attendance at training programs, it was also discovered that there was no link between students' academic achievement in technical drawing and the growth of technical drawing teachers. The results of this study suggest that work experience and teacher quality are important determinants of students' academic success in technical drawing. According to the study's results, the government should coordinate and provide technical teachers with a variety of possibilities that bring about the development of teachers professionally.

In order to determine how well students performed in mathematics during the 2016–2019 Kenyan Certification of Secondary Schooling (KCSE) Exams in Busia Sub-County public secondary schools in Busia County, Molenje (2020) carried out a study. As from 19 public secondary schools in the Busia sub-county, six were chosen as samples. This sample represents 31.5% of the sub-public county's high schools. Every school's principal, four teachers, and a sample of 15 kids were taken. 24 teachers, 6 principals, and 90 pupils in all were selected. Students in class form four were the primary focus of the investigation. The study's four main goals were set out by the researcher: to what extent a teacher's training and experience affect students' achievement; to what extent lesson planning and preparation by teachers affect students'

achievement; to what extent teachers' instructional methods affect students' achievement in mathematics; and, finally, to ensure that students accomplish well on math exams like the KCSE. The technique for the study used a descriptive survey approach. The participants were chosen using a straightforward random sample procedure, and questionnaires were created to gather the necessary information. Tables with the obtained data were created, and percentages were used for analysis. According to the study's findings, teachers who utilized effective learner-centred teaching strategies produced students who performed better than those who primarily used teachercentred strategies. Additionally, it was discovered that teachers with more than five years of experience had a stronger impact on students' math achievement than teachers with less experience. The study also showed that better communication and connection between teachers and students linked to improved student achievement. The study also revealed that although achievement in these schools was comparatively low, even these schools with teachers who effectively planned class notes and involved working examples, connected well with the students, noticed how each student learned mathematics differently, frequently used pertinent teaching aids, and provided students with a variety of activities in the classroom to train learning mathematical understanding, skill sets, and constructs, showed only a slight improvement in achievement. The results of the study will be very helpful for improving mathematics achievement in our secondary schools for math teachers, learners, county quality of education inspection officers, college instructors, and college professors.

In Indonesia, Sirait (2016) investigated the connection between teacher quality and academic performances. According to this study, a teacher's quality can be determined by how well they performed on professional and instructional competency tests. The findings of this study are consistent with earlier research showing that the performance of students in secondary school

level is highly influenced by teacher quality as measured by teacher evaluation scores. The study also looks at additional control factors, such as public and family spending, poverty and unemployment rates, access to power, and morbidity rates by district, in addition to the teacher quality variable. Various outcomes for other variables are related to student accomplishment. While instructor expertise, family expenditure, public spending, and mortality rate variables are only partially correlated with student achievement, electricity access is significantly related to 'student performance'.

Alonzo, Sanchez, and Rodríguez (2020) 'conducted a study to examine the impact of teacher quality on student performance' in Spain. The study collected data from a sample of schools and utilized academic records and 'standardized test scores' to measure 'student performance'. Teacher evaluations and classroom observations were used to assess teacher quality, including instructional effectiveness, subject expertise, and classroom climate. The findings indicated a 'positive correlation between teacher quality and student performance' in Spain. The study highlighted the influential role of high-quality teachers in promoting student academic success.

Scheerens and Bosker (2022) conducted a study to' explore the 'relationship between teacher quality and student performance' across European countries. For the tool, the research employed the international assessments large scale tool "Programme for International Student Assessment (PISA)" and the 'Trends in International Mathematics and Science Study (TIMSS)', which include data from multiple European countries. The findings indicated a 'positive relationship between teacher quality and student performance' across the participating countries. The study emphasized the importance of teachers' subject knowledge, pedagogical competence, and classroom management skills in influencing student outcomes in Europe.

Darling-Hammond (2000) conducted a comprehensive study that utilized data from a 50-state survey of policies, state case study analyses, the "1993-94 Schools and Staffing Surveys (SASS), and the National Assessment of Educational Progress (NAEP)". The research intended to determine the association between 'teacher qualifications and other school inputs' with s'tudent achievement' across different states. 'Both qualitative and quantitative analyses' were employed, and the results indicated that 'investments in the quality of teachers' through policy measures might lead to improvements in student performance. Specifically, the quantitative analyses showed that teacher preparation and certification had the most substantial correlations with student achievement in reading and mathematics, even after accounting for student poverty and language status. The study also used state policy surveys and case study data to assess policies that influenced the overall level of teacher qualifications within and across states. This analysis highlighted that state policies concerning 'teacher education, licensing, hiring, and professional development' could significantly impact the qualifications and capabilities that teachers bring to their roles in the education system. The Darling-Hammond conducted extensive research on teacher quality and student achievement. The researcher employed data from the surveys of 50 states, policies, state case studies and analyses between 1993 to 1994. The researcher used "Schools and Staffing Surveys known as SASS and the National Assessment of Educational Progress (NAEP)". This study investigates the relationships between teacher credentials and other educational resources and student performance across provinces. The results of the qualitative and quantitative assessments point to a potential relationship between public interventions in teacher quality and enhancements in student achievement. Quantitative analyses demonstrate that markers of teacher professional development and licensing are by far the biggest factors in predicting achievement in literacy and mathematics, both before and after correcting for student economic

factors and language level. Governmental policy assessments and research project data are used to evaluate the policies that have an impact on the average level of teacher certifications within and between states. This analysis suggests that the qualifications and skills that teachers bring to their work may be significantly impacted by state regulations governing teacher preparation, licensure, recruiting, and professional development. The effects of state efforts to raise the equity and standard of public education are discussed.

Josiah and Oluwatoyin (2017) examined if teacher quality is a determinant to student achievement in the high schools in Nedo, Nigeria. Pursuing this study, the researchers developed four research questions while the hypothesis was tested at the significance level of .05. The researchers employed correlational research by selecting a target population of 418 teachers delivering mathematics and English subjects. Then, they drew a sample size of 84 teachers from the two subjects. In collecting data, the researchers developed two checklists one for academic performance of students while they selected the other to assess the teacher quality aspect. In their descriptive statistics, the researchers ran percentages and frequencies while they used Pearson Product Correlation for the inferential analysis. Findings showed that the level of teacher quality was, the 'academic performance' of students in these secondary schools was normal compared to their previous status. Therefore, the study revealed that teacher quality was not a significant predictor to the 'academic performance' of students; in order words the study revealed that there is no signification correlation between teacher quality and 'academic performance'.

Contrary to Josiah and Oluwatoyin (2017), Khuan (2020) examined the link between student 'academic achievement' and teacher quality using empowerment as a mediator. The study examined the link between student 'academic achievement' and teacher efficacy using empowerment as a mediator. In Kwara state, Nigeria, 379 instructors were chosen at random from

government high schools. The proposed model was put to the test using a structural equation model. According to the study's findings, the achievement of students is determined by the quality of their teachers because teacher quality was strongly correlated with students' academic performance. The lack of a relationship between teacher quality and principal empowerment strategies was demonstrated by the insignificant correlation that was established. Additionally, the effectiveness of the principal's empowerment strategies with regard to students' academic achievement was examined; the results, however, were inconsequential. The mediating effect of principal empowerment practices, which served as a potential mediator in the association between teacher quality and student academic achievement, was also investigated. To be more precise, the empowerment process needs to be internalized in order to enhance the teaching abilities in the classrooms. In order for pupils to achieve their educational goals, there should be collaboration between school administrators and teachers.

According to Mohamed (2021), teacher quality has been conceptualized by various authors. However, the most common indicators had been drawn from the Shulman (1986) and Darling-Hammond work (2010). The two most common indicators are teachers pedagogical content knowledge and subject matter knowledge. This study has also pursued the same track. Teacher quality has been characterized as pedagogical content knowledge (PCK) and knowledge to subject matter (SMK).

Pedagogical Content Knowledge

Pedagogical practices encompass a broad spectrum of teaching strategies, methods, and approaches that educators employ to facilitate learning and foster intellectual development among students. As defined by Smith and Johnson (2018), pedagogy refers to the art and science of teaching, incorporating the instructional techniques and methodologies that educators utilize in the

classroom. This essay delves into the multifaceted nature of pedagogical practices, examining their definition, components, and significance in shaping effective educational experiences.

Pedagogical practices encompass a wide range of instructional techniques designed to engage students in meaningful learning experiences. According to Davis (2020), these practices go beyond the mere transmission of information and involve creating an interactive and dynamic learning environment. Effective pedagogy involves a deep understanding of educational theories, learning styles, and the developmental needs of students (Shulman, 2005). Pedagogical practices comprise various components, including curriculum design, assessment strategies, classroom management, and the integration of technology (Brookfield, 2015). The design of a curriculum, as highlighted by Pratt (2017), plays a crucial role in shaping pedagogical approaches, influencing what and how students learn. Assessment strategies, according to Black and Wiliam (1998), are integral to effective pedagogy, providing educators with insights into student progress and guiding instructional decisions. The significance of pedagogical practices lies in their ability to shape the learning experience and contribute to student success. Hattie (2009) emphasizes the high-impact nature of effective pedagogy, indicating that teachers have a substantial influence on student outcomes through their instructional practices. Furthermore, the application of diverse pedagogical approaches caters to the diverse learning styles and needs of students, fostering inclusivity and equity in education (Vygotsky, 1978).

The link between 'pedagogical practices and student performance in primary schools' has been extensively researched, demonstrating the profound impact that teaching strategies and techniques for managing classrooms can have on students' learning outcomes. Marzano (2003) synthesizes decades of research findings to identify nine high-yield teaching strategies that significantly improve 'student achievement'. These strategies include setting objectives,

reinforcing effort, providing feedback, and employing cooperative learning techniques. Marzano's work has been instrumental in guiding teachers towards evidence-based practices that enhance student learning. Also, Slavin (1996) examines the efficacy of cooperative learning—a pedagogical practice that involves students working in small groups to achieve learning goals. Slavin's meta-analysis of cooperative learning studies finds that when properly implemented, cooperative learning strategies can lead to significant improvements in student achievement, social skills, and race relations. Further, Hattie, J. (2009) identifies and ranks the effectiveness of different teaching practices based on their impact on 'student achievement'. Notable among these are feedback, formative evaluation, and teacher-student relationships. Hattie's comprehensive analysis provides a valuable resource for educators seeking to adopt pedagogical practices with proven efficacy.

Research-informed instruction is essential for fostering reading skills among students, and teacher professional development (PD) plays a vital role in promoting quality teaching methods. Despite its importance, there has been a lack of extensive analysis regarding the influence of teacher PD on students' reading success. In response, Didion, Toste, and Filderman (2020) conducted a meta-analysis to assess the effect of teacher PD on reading performance among kindergarten to 8th-grade students. The study also sought to identify if certain attributes of the studies, programs, or participants affected the outcomes. A thorough review of literature from 1975 to 2017 yielded 28 relevant studies. Findings from the meta-analysis revealed that teacher PD positively and moderately affects reading achievement. However, variations in PD's impact on student results were not accounted for by the moderator analysis. The majority of the research included in the study pertained to typically developing elementary students, with only a handful examining middle schoolers or students with or at risk for reading challenges.

The researchers discuss the need for more detailed research designs to better understand the features of effective PD and how it translates into changes in student reading achievement.

Guthrie, Wigfield and VonSecker, C. (2000) explored the impact of integrated instruction on students' reading motivation and strategies. The study finds that engaging students in meaningful, authentic reading tasks significantly improves their intrinsic motivation to read and their use of cognitive reading strategies, leading to better comprehension and performance. Fuchs, Fuchs, Hamlett, Phillips, Karns and Dutka, S. (1997) investigated the effects of peer-mediated instruction and the provision of conceptual mathematical explanations on 'students' performance' in mathematics. The study concludes that students who participate in peer-mediated learning, especially when it includes conceptual explanations, show significant improvement in mathematical problem-solving skills.

The greatest influence on students' learning comes from their teachers, but very little is understood about the particular knowledge that professional educators possess. A number of change agents in the education sector have recently begun to pay more attention to the impact of teachers' subject knowledge (TSK), pedagogy knowledge (PK), and pedagogical content knowledge (TPCK) on students' academic achievement. Understanding fundamental underlying aspects like the teaching and learning process, the theoretical underpinnings, and how teachers' knowledge is applied in the classroom is necessary for conceptualization teacher knowledge, which is a challenging task. According to empirical studies, teachers' abilities play a significant role in predicting gains in student performance. Teachers are required to analyse and assess new information that is pertinent to their core teaching skills as well as to traditional style the body of knowledge in their field. The literature on the idea of instructors' pedagogical content expertise in raising students' school performance is reviewed in this article. The development and

implementation of matched pedagogy is a difficulty for the community of teacher education given the expanding significance of digitalization and its significance in the national curriculum. The purpose of this study is to determine (a) whether cooperative learning and the technological pedagogical content knowledge model help practicum teachers perceive and educational performance, and (b) whether there is a connection between prospective teachers' perceived notion of and their school performance. For 15 weeks, a quasi-experimental pretest-posttest design (n = 293) was used with three groups. One group has had competence with a TPACK-based and small-group teaching strategy. A second group was exposed to a TPACK and CL-based teaching strategy. Individual assignments and a teacher-centred pedagogy were used in the control group. The two experimental groups both perceived TPACK more favorably and performed better academically, according to the main findings. However, improvements that were shown to be statistically significant were in the group that had TPACK and CL. The prediction model also revealed that pre-service teachers who also underwent TPACK and CL had academic accomplishment that was anticipated by TPACK. In conclusion, TPACK and academic achievement of pre-service teachers are improved by digital pedagogies based on TPACK and CL. The adoption of these pedagogies may have an impact on how future educators improve their digital competence. Given the current social and educational environment, improving future teachers' digital competency is undoubtedly important.

Subject Matter Knowledge

Subject matter knowledge pertains to a teacher's profound comprehension and expertise in the material they are tasked with imparting to their students. This entails not only a thorough understanding of the facts and concepts within a specific subject area but also an awareness of the fundamental principles, interconnections between various topics, and the proficiency to effectively

communicate this knowledge. As emphasized by Shulman (1986), subject matter knowledge stands as a pivotal element of pedagogical content knowledge, playing a substantial role in fostering effective teaching practices. Educators possessing a strong grasp of their subject matter can deliver lucid explanations, anticipate potential misconceptions among students, and craft meaningful learning experiences. This proficiency empowers teachers to facilitate student learning, promote critical thinking, and adapt their instructional approaches to cater to the diverse needs of learners. Ultimately, subject matter knowledge serves as the cornerstone for successful teaching and student comprehension, underscoring the significance of educators continuously refining and augmenting their grasp of the content they teach (Shulman, 1986).

A study was inspired by the declining standard of education in Somaliland, that had previously been ascribed to teachers' lack of subject knowledge and other problems. The increasing rate of SLNECB exam failures was an indicator of the drop in academic standing. The proportion of AP students in public elementary schools has decreased to 21% during the past five years. Somaliland's national test results show that failure rates have increased, while the impact of subject-matter expertise on student performance. Cross-sectional research design was employed in the study. A random stratified sample of 160 teachers from the public elementary schools in the Hargeisa District provided the data for the questionnaire, which was used to examine the document analysis. The study found that in the public primary schools in the Hargeisa area, teacher subject matter expertise affects children' academic progress. The results of the students improve with the level of subject matter competence of the teacher.

Ahmed (2019) examined into the connection between students' academic performance in economics and teachers' subject-matter expertise in senior high schools in Adamawa state, Nigeria. The researcher used a descriptive survey design for this study, which had specific objectives,

research questions, and assumptions. The study's focus area was Adamawa State. The study's sample size is 5465 people, including 337 principals and 5128 instructors from all the public secondary schools in the state of Adamawa's five educational zones. The Taro Yamane method for a sample size from the selected zones determines the sample size of 73 principals and 372 teachers in both selected zones. The tool was a survey on subject-matter expertise for teachers and a proforma for student performance outcomes from chosen schools from the WASSCE results for the years 2015–2018. Four Senior Lecturers verified the tool. Using the Cronbach Alpha Method, a composite reliability of 0.83 was discovered. Through the distribution of the questionnaires, the information was gathered. To address the research issues, descriptive statistics like mean and standard deviation were used. While testing the null hypothesis was done using inferential analysis like multiple correlations. At a significance threshold of 0.05, the hypothesis was tested. The findings showed that the 0.05 level of significance test resulted in the rejection of the hypothesis, and it was determined that instructors' subject-matter expertise influences secondary school students' academic progress in senior high schools in Adamawa.

In South-West Nigeria, Oni (2020) investigated the link between teacher quality and students' academic success in Basic Technology. Ex-post facto designs and quantitative surveys were employed. 558 administrators and 558 of Basic Technology instructors from 558 schools were chosen from 18 states in the federation in the six states of the southern west of Nigeria such as Oyo, Lagos, Ekiti, Ondo and Ogun. Data was gathered and analysed using a selfmade survey and the results of the 2011/2012 Junior High School Certificate Examination. The Pearson ProductMoment Correlation Coefficient was used to analyse the data that had been collected. The results showed, among other things, that there was a strong correlation between academic

performance of students and the calibre and experience of teachers. The findings' implications for the government, policy makers, and principals of educational institutions were stated.

The compilation of literature examined the critical role of teacher quality in influencing 'student performance'. Spanning various contexts, the studies emphasize teachers' subject knowledge, pedagogical expertise, and ongoing professional development as key determinants of educational outcomes. Findings underscore the significant impact of skilled and experienced teachers in enhancing 'student achievement', highlighting the necessity for targeted teacher training and supportive policies to bolster educational standards globally. This body of research is instrumental in guiding efforts to improve teacher effectiveness and, by extension, student success.

School Facilities and Academic Performance

In many OECD countries, improving the calibre of school facilities is a governmental concern. The "International Institute of Educational Planning at UNESCO" defines school facilities as including land, structures, and furniture. It contains physical spaces for classrooms and support rooms (Beydan, 1997). Governments consider school facilities such as classrooms, library resources, spaces for physical education and the fine arts, toilet facilities, specialized labs, canteens, media centres, related exterior facilities, gardening, and pavements. School facilities also include buildings, lighting, and tools that are required for the efficient and effective operation of the public education (Nasra, 2021). According to Yasin (2018), school facilities enhance the learning environments at the institution, which raises the calibre of instruction. Educational researchers have been undertaking studies on the association between school facilities and academic performance.

According to a study conducted by Ramli, Zain, Campus, Chepa, and Bharu (2018), school facilities may have an impact on students' academic achievement. Often a new university can't offer enough facilities to learners, which could have an impact on their performance. The three components identified in this study—System Management Learning Environment (Classrooms, Teaching Aids, Library); and Infrastructure—can affect students' academic progress. Due to the campus's requirements for using shop lots as construction sites, it was held at the Universiti Malaysia Kelantan City Campus. 500 students received data from the academic year 2016–17. An overall response rate of roughly 73% resulted in the receipt of 364 completed surveys that could be used. The study uses correlation and regression analysis to look at the data. The study's conclusions show that learning settings including libraries and educational materials, as well as accommodations, gyms, storage, and infrastructural transit, all had a significant effect on students' academic achievement. The sum of all the variables was around 51.5% of the pupils' success. Given that this is the UMK's first attempt to investigate the problem, the study offers insightful information on the aspects to which the UMK and other academic institutions should pay particular attention in order to raise students' school performance.

In Nigeria, Takwate (2018) looked into how high school students' academic achievement in Adamawa State was correlated with the distribution, accessibility, and maintenance of school infrastructure. For the study, a correlational design was used. Employing the proportionate sampling technique, a sample of 153 school administrators and 377 teachers were randomly selected from 248 senior secondary schools and 6,450 instructors, correspondingly. Data collecting tools included a proforma and checklists for tracking students' academic achievement as well as two questionnaires called "School Facilities Planning and Allocation Questionnaire (SFAQ) and Management of School Facilities Questionnaire (MSFQ)". Following validation, the reliability

coefficients for the SFAQ and MSFQ were 0.82 and 0.76, respectively, according to Cronbach's alpha. For addressing the research hypotheses, mean scores, standard deviation (sd, and the Pearson Product Moment Correlation Coefficient were used. It was discovered that the maintenance and allocation efficiency of school facilities were, respectively, inefficient and effective. School facilities were evaluated as not being readily available, and pupils' academic achievement in the WAEC/SSCE May/June 2013–2015 was deemed to be subpar. The study found a strong correlation between students' academic achievement in Adamawa State, Nigeria, and the effectiveness, availability, and operational efficiency of school amenities. The study suggested, among other things, that the state empower all senior secondary schools in the state with what they need using proper planning and allocating processes for facilities, and that school administrators regularly carry out thorough assessments of the amenities in their buildings to identify areas of need.

According to Arshad, Qamar, and Gulzar (2018), the physical infrastructure of the school has an impact on students' academic performance. The study was quantitative and included survey methodology. The Sahiwal district of Punjab, Pakistan, served as the source of the sample for this study, which was chosen using a multi-stage random sampling procedure. Prior to gathering data, the researcher created and assessed a Check-List for Physical Facilities (CLPF). The current study uses multiple regression analysis to examine the data. Analysis is done on test results from the eighth grade that were administered by the Punjab Examination Commission in 2017. According to the study, factors such as airflow, plants, sports, first aid kits, and LCD/LED lights had a big impact on kids' academic performance. The whole physical infrastructure accounted for around 15.4% of the academic success of the students.

In Taiwan, there have been numerous research done to fully understand how school facilities affect students' academic achievement, but it seems that there have been few studies done with a focus on vocational education. A research by Thuan and Liu (2018) sought to explore the impact of school amenities on s'tudents' achievement' in vocational schools in order to add to the necessity of this issue. Interviews served as the data gathering tools in this qualitative approach. Studying at a university in Taiwan's Douliu county were the five phd students and one postdoctoral student. Responses from each participant were recorded, followed by transcription. According to respondent comments, classroom amenities, science labs, and playgrounds have a significant impact on how well learners know at vocational technical high schools. The collected data also emphasize the number, quality, and accessibility of equipment in lecture halls and workshop spaces. The statistics also made an intriguing point about how students' academic achievement in technical high schools is affected by their access to playgrounds. In order to improve student motivation and learning effectiveness in vocational secondary schools, the study raised concerns about parks.

More so, researchers Lopes, Moreira, Ribeiro, Santos, and Costa (2019) looked at how the physical environment and resources of schools affect students' academic performance. The goal of this study is to identify and evaluate the concurrent and partial effects of surrounding and school facilities on learning outcomes. 180 students from the entire 10th grade population were used in a quantitative technique. 64 scientific and technology students from the 2018 scholastic year made the representative sample. The reliability and validity of the data collecting tool were tested by exploratory and factor analyses, expert adjustments, and field experiments. KMO is 0.84, and the Alpha Cronbach's alpha is 0.65. The study's findings revealed that the multiple regression's value was Y=10,528 + (- 0,038 X1) + 0.689X2. Environment and school facilities have a partial impact

on how well students learn, with the value of the school environment's tcount being -0,324 and the value of the facilities' tcount being 5,790 and 1,6702 respectively. Moreover, Fcount = 17,968 > Ftable = 2,76 indicates a concurrent influence of the school environment and amenities on student educational performance. It indicates that 68.9% of student learning achievement was significantly influenced by school infrastructure. The educational setting has a 37.1% impact on students' ability to learn. Across the country, school districts are continually looking for ways to raise test results, lower absenteeism, and improve the interior environment. It is crucial to pinpoint the important construction investments that will help schools the most in terms of enhancing the aforementioned elements. In 2020, Hameen, Opurum, Priyadarshini, Lartigue, and Pisipati looked into how school facilities affected students' academic achievement. This study used analysis of variance (ANOVA) tests to quantitatively assess the influence of mechanical and plumbing features of a school building on a student's academic achievements. Test results, suspensions, and absenteeism are the three measures used to gauge school achievement. The study looked at 125 schools in New York City to see if there were any possible relationships between 50 mechanical and plumbing factors and performance measures.

Important test results showed that, when compared to primary schools without pneumatic systems, the percentage of kids scoring at the minimal English Language Arts (ELA) competency level was 48.8% lower in the former. Additionally, relative to primary schools without "unit heating systems heaters" or those in poorer status, those with "unit heating systems heaters" in "fair to good" situation have attendances that are 1.1% higher. Additionally, elementary schools with air conditioners have school attendance that are 0.6% higher than schools without it, and those with interior floor drains in "excellent" condition have attendance rates that are 1.8% higher than those with interior drainage in subpar shape.

In Kenya, Wambua, Murungi, and Mutwiri (2018) investigated the potential impact of physical school amenities on student achievement. The main purpose of this study was to explore the impact of the teaching environment in classroom on the social studies test scores of lower elementary school students in the Kibwezi area at Makueni County of Kenya. This study sought to ascertain the impact of physical facility accessibility and utilization on the performance of students in social studies in primary schools in the Kibwezi area of Makueni County in Kenya, as to further ascertain the methods employed by teachers to enhance students' social studies achievement in the same study region. The Urie Brofenbrenner environmental model, that primarily adheres to the contextual of interaction networks that divide the pupils setting in five strata, served as the study's main conceptual framework. The research used descriptive design. In this study, the IV was classroom learning environment, the DV was the achievement of the students in social studies. The focus of this study was all the teachers and pupils in Kibwezi lower primary school. Employed by both stratified and simple random techniques to choose teachers and groups of primary schools as study participants, the researcher also used purposive sampling was employed to choose the study's site. All students in the sampled schools' lower primary classes made up the sample. Utilizing questionnaires and schedules for observing, data was gathered. The tools' validity was ensured using content validity. The reliability of the instruments was assessed using the test-retest method. Utilizing descriptive statistics, data was examined. According to the findings, social studies instruction in primary schools in the Kibwezi area was not effective due to the classroom environment. The accessibility and utilization of physical amenities in social studies classes were below average, and students fought over the little resources that were provided. Social studies student performance was still below average. Parents should be encouraged to engage in forums like CDF and county council that could assist elementary schools obtain funding for

buildings and teaching/learning materials. In order to facilitate the construction of schools and the purchase of supplies and infrastructure, the study also suggested that MOEST/Government enhance the Free Primary Education Funds.

Ojuok, Gogo, and Olel (2020) conducted their study to examine the impact of physical resources on 'academic achievement'. Over 50% of students registered in 'constituency development fund (CDF)-built secondary schools in Rachuonyo South sub-County' received test scores of E to D through 2013 and 2014. These grades fell short of the required minimum quality grade of C+, which allows students to enrol in challenging courses at the higher education and college levels. In light of this, the main aim of the research was to determine how the school amenities and facilities in secondary schools in the Rachuonyo South sub-County built by CDF affect students' school achievement. The study's goals were to determine how the quality of the science lab, the classrooms, and the computer lab affected students' achievement on the KCSE. Depending on the input and output variables, the production function theory served as the study's guiding principle. Correlation and descriptive survey research approaches were employed. 42 secondary school administrators who had their schools built by CDF and one 'sub-County Quality Assurance and Standards Officer' made up the study's sample. 37 principals from the 37 secondary schools were included in the sample, along with 1. Utilizing surveys, an interview guide, as well as a content analysis guide, data was gathered. Both the content and face validity of the tools were assessed. The tools' reliability was demonstrated by a test-retest correlation of r=0.7. In the data analysis, both descriptive statistics and linear multiple regressions were applied. The study's findings showed that the three variables—a science lab, a good classroom, and a computer lab— had a marginally significant but weak link with students' achievement on the KCSE. According to the report, the state should set up the necessary infrastructure to ensure high-quality instruction in

CDF secondary schools. The administration will follow these conclusions when allocating resources to these schools.

In the Taraba State metropolitan of Wuakari, Livala, Bulus, Daver, and Livala (2021) delved into how students' use of educational facilities affected their academic achievement. 'The study used an ex-post facto research design'. Learners who successfully passed JSS3 between 2014 and 2017 make up the student community. A School Facility Utilization Questionnaire and School Facility Provision Checklist were used to gather data for the study. The State Ministry of Education provided the student's test results. To test the hypothesis, the researchers employed t test after descriptive analysis of the data was completed. According to the research, 17 out of 25 schools are not appropriately furnished. The results also showed that teachers and students use the amenities to a suitable degree. It was recommended that the administration and key players put in place supervision procedures to guarantee that school resources are provided in a sufficient manner.

Jean (2021) used the Nyamasheke District as a model study to assess the impact of school libraries on 'academic achievement' in Rwanda's secondary schools of achievement. The aim of this study was to determine the benchmark of school university libraries in high schools of quality, to evaluate the level of student 'academic performance' in secondary schools, and to investigate the effect of school library physical facilities on 'academic achievement' of secondary school of excellence. Both qualitative and quantitative research methods were combined with a descriptive study design. 3633 participants from 32 secondary schools in the Nyamasheke District made up the target population. 284 participants made up the study's representative sample. The approach of systematic random sampling was used. Utilizing the purposive sample method, the teaching staff was selected. Data were gathered using a survey questionnaire, interviewing techniques, and observation. The validity and dependability of the research tools were guaranteed. To assess and

guarantee the dependability of research tools, a pilot study was conducted. Findings revealed that many secondary schools lacked library facilities. The researcher discovered that having access to and using library resources enhances 'academic achievement'. It was discovered that the study's district lacked a reading culture, that kids there lacked the desire to read, and that they lacked the time to improve their abilities and 'performance'. Six schools' academic standing continued to deteriorate from 2017 to 2018. Achievement on national tests was consistent across all schools. Exams and homework were treated as givens. Each of these factors considerably improves student academic achievement when it is enhanced because all connections were significant and beneficial. This same researcher made the following recommendations: parents are advised continue providing rooms that would provide amenable reading environments within their households, school administrators and educators should work together to receive sufficient books and well-equipped library resources, and based on culture reading procedures should be developed in order to increase the use of library resources.

Numerous studies have examined into how amenities in schools affect students' academic achievement, but there don't seem to be many on how facilities are provided and used in relation to academic achievement in Lagos state secondary schools. The goal of this study by Akinyemi, Lawal, and Owosoro (2021) is to investigate the connection between the availability and use of resources and students' student performance in public senior secondary schools in Lagos State Education District V. A descriptive research methodology was utilized to examine into the study, and two hypotheses were developed and evaluated at the 0.05 level of statistical significance. A multi - stage sampling method was used to select 400 respondents from the selected universities in the Education District. Three tools—a checklists, a record inspection form, and a survey used to gather information on the availability and utilization of educational facilities, students' academic

performance, and their attitudes regarding using them. After proving their validity, the tools' reliability was determined to be 0.89 and 0.91, correspondingly, with the exception of the data observational form. To examine the proposed assumptions, collected data were analysed using Pearson's correlation and the t-test. The researchers found no significant differences between male and female students' attitudes toward using the facilities available at public senior secondary schools in Lagos State Education District V. It also found no significant relationship between the providing and use of amenities and students' school performance. It was advised that the state, through representatives from the Ministry of Education and school administrators, must make sure that schools are properly maintained and overseen to ensure that the resources at their disposal are utilized efficiently for instruction and learning.

Any nation's subsistence and prosperity depend on the progress and innovation towards technology and science. Utilization of physics education is necessary to achieve realistic technological and scientific advancement. The 'academic achievement' of senior school pupils in the subject is weak, which poses a serious threat to the country's scientific and technical advancement despite the vital role that physics plays in national development. Investigating factors that might have an impact on students' academic achievement in the topic is necessary to raise their proficiency in the subject. In order to better understand how teaching environments and the calibre of teachers affect senior high school students' "academic achievement" in Physics, Anwo (2021) conducted this study. To achieve equitable representation, the study used a proportionate random sample procedure and a survey methodology. The study involved a sample of five schools drawn at random from each of the three local governments that made up the city. The grade of Physics students who took the "May/June West African Senior School Certificate Examinations" between 2017 and 2019 were gathered in the chosen schools using an assessment form and surveys given

to the Physics professors. The study issues were addressed using frequency analysis, mean, and percent, and the assumptions were tested using the t-test statistics. The findings indicated that senior school physics students' academic achievement is affected by the instructional environment and the calibre of their instructors.

Innocent (2021) examined into how academic facilities affected students' academic performance in a few government-owned high schools in the Rive's State region of Port Harcourt. Because of time constraints, public schools make learning and teaching faster and require less instructions from the teacher. 2 research aims, two research questions, and two assumptions served as the study's guiding principles. This study employed a correlational research design as its methodology. In this study, 1,150 parents, teachers, and students made up the population A collection of well-structured surveys served as the data gathering tool. The research topics were addressed using analytical methods including simple percentage and mean rating, and Pearson Product Moment correlation coefficient was utilized to look at the relationship between educational facilities and students' academic achievement. The Statistical Package for Social Sciences (SPSS) version 23.0 was used to analyse the data sets. The study's results stated that there is a substantial difference between those who were taught using educational content and those who weren't; additional findings also showed that there is a significant difference between students who studied with teaching materials and those who didn't. Depending on the research's results, the study came to the conclusion that the presence of educational facilities is crucial to the teaching and learning process and has many benefits for student loyalty and integration, which raises academic accomplishment. According to the study's conclusions, among other things, it was advised that schools should offer health services to improve students' academic performance.

Schlaffer and Burge (2020) presented fresh data on the unequal impacts of investments in educational infrastructure on academic success by taking use of quasi-experimental variation in the amount of capital expenditure. They combined information from Texas's 4 million third-through eighth-graders with findings from school bonds and openings. According to peers effects research and a "reshuffling" of higher-achieving kids into other schools, they discovered significant disparities in the impact between the top and bottom deciles of the pre-treatment performance distributions. Bond passing generally has a beneficial impact on reading and math results, with a standard deviation of about 1/10th. The effect, however, is four times as big for the children who scored the lowest, and it goes in the opposite direction for the students who performed the best.

In addition to the significance of educational institutions, work still has to be done in Indonesian educational institutions to raise the standard of instruction. Even Indonesian educational institutions strive to raise the quality of their instruction, but it is still necessary to determine why these institutions are not counted among the world's top universities. In order to better understand how school resources affect teaching effectiveness, Dawabsheh, Mustanir, and Jermsittiparsert (2020) conducted a study. The current study's goal was to investigate how teaching ability and professional growth in an Indonesian educational institution mediated the impact of school amenities on engineering education standards. The study was quantitative and descriptive in style. 'Data collection was done through the use of questionnaires'. Teachers from Indonesian universities made up the study's respondents. information gathered from 384 university professors. Individuals 'served as the study's unit of analysis', and it was cross-sectional in nature with data from teachers only being gathered once. Furthermore, data was gathered using the straightforward random sampling method. In this study, SMART PLS was used to evaluate the data. The study's

findings demonstrate a significant and favourable association between all factors, including the standard of engineering instruction, school amenities, the expertise of teachers, and career development.

Most studies 'revealed a significant' positive relationship between well-maintained school facilities and student academic performance. Specifically, schools with better physical conditions and adequate resources were associated with higher student achievement levels.

Many other researchers examined the influence of library facilities on student performance schools. The research investigated the availability of library resources, including books, digital materials, and information literacy programs, and their impact on student academic achievement. The findings indicated that students who had access to well-stocked libraries and utilized library resources tended to have higher academic performance. Library facilities were found to contribute positively to students' learning experiences and academic outcomes (Scoulas & De Groote, 2019).

Schools with better physical conditions, adequate resources, and modern technology demonstrated higher academic achievement compared to those with inadequate facilities. Ozdemir and Orakci (2018) examined the impact of classroom conditions on student performance in Turkish schools. The research assessed factors such as classroom size, lighting, ventilation, and seating arrangements. The findings indicated that students in classrooms with better physical conditions, including spaciousness, appropriate lighting, good ventilation, and comfortable seating, showed higher academic achievement. These results emphasized the importance of providing conducive learning environments for students. Koc (2018) conducted a meta-analysis of studies across OECD countries, examining the influence of school facilities on student performance. The research synthesized the results of multiple studies and found consistent evidence supporting the positive association between well-maintained school facilities and student achievement. The analysis

emphasized the importance of factors such as classroom size, lighting, ventilation, technology integration, and library resources in enhancing academic outcomes.

UNESCO (2017) conducted a study investigating the "relationship between school facilities and student performance in OECD countries". The research examined various aspects of school infrastructure, including classroom conditions, sanitation facilities, and resources. The findings indicated that schools with improved infrastructure, including better physical conditions, well-equipped classrooms, and adequate resources, had a 'positive impact on student achievement' The OECD (2019) conducted a comprehensive study examining the influence of 'school infrastructure on student performance' across member countries. The research focused on factors such as classroom conditions, availability of educational resources, and school environment. The findings revealed a positive correlation between well-maintained school facilities and student performance. Schools with better physical conditions, adequate resources, and modern technology demonstrated higher academic achievement compared to those with inadequate facilities. Sahan (2017) 'conducted a study focusing on the influence of labouratory facilities on student performance' in Turkish secondary schools. The research explored the "availability and utilization of labouratory resources, particularly in the fields of science and technology", and their impact on student achievement in related subjects. The findings revealed a positive association between well-equipped labouratories and student academic performance. Schools with properly equipped labouratories and practical hands-on learning experiences demonstrated higher performance in science and technology subjects. Karadag and Guner (2020) investigated the influence of library facilities on student performance in Turkish schools. The research examined the availability of library resources, including books, digital materials, and information literacy programs, and their impact on student academic achievement. The findings indicated that students who had access to

well-stocked libraries and utilized library resources tended to have higher academic performance. Library facilities were found to contribute positively to students' learning experiences and academic outcomes.

Similar findings revealed a positive association between well-equipped science labouratories and student academic performance in science. Aladejana and Aderibigbe (2007) conducted a study. The study investigated how students evaluate different aspects of their science laboratory setting and the impact of this environment on their learning outcomes. Using a modified ex-post facto design, 328 students from a total population of Senior Secondary School chemistry students in a state in Nigeria were randomly selected. These students were surveyed using the Science Laboratory Environment Inventory (SLEI), which was developed and validated by Fraser et al. in 1993. 'Data were analyzed through descriptive statistics' and Product Moment Correlation. The analysis showed that students are able to rate the five aspects of the laboratory environment: Student Cohesiveness, Open-endedness, Integration, Rule Clarity, and Material Environment. Of these, Student Cohesiveness received the highest rating, while Material Environment was rated the lowest. Additionally, a positive correlation was found between all five components of the laboratory environment and the students' academic performance. The study discusses these results in the context of enhancing the quality of laboratory environments, improving academic performance in science, and ultimately increasing student enrollment and retention in science fields. Students in schools with properly equipped labouratories and practical hands-on learning experiences demonstrated higher performance in science subjects.

Nonetheless, the Kenyan system of education is showing improvement despite a number of drawbacks, including insufficient resources for teaching and learning in high schools as a result of improper planning and bribery. The impact of teaching and learning resources on students'

academic achievement in secondary school maths in Kenya's Bondo area was examined in a research by Otieno (2010). With a number of 405 seniors four students as the study's demographic, 'the research strategy' for this study was a descriptive study. Nine out of the 24 schools in the three segments of Bondo districts—a total of 242 students—were chosen randomly. The classrooms were all intact. Co-educational day, co-educational residential, boys boarding, and girls boarding were the different strata of schools.

The Student Questionnaire on Performance was one of the research tools created for the study that had been approved. There were solutions to three study questions. This data was gathered, and multiple regression analysis was used to examine it. All eight independent parameters and the dependent measure, mathematical achievement, have a positive connection. The eight factors were responsible for 23.6% of the independent measure's overall variation. Government funding, qualified teachers, facilities such as classrooms and labouratories, and textbooks and student-to-teacher ratios may all be utilized to forecast academic mathematics achievement. The study suggests that the government and all interested parties should pay more focus on a number of variables in order to enhance results in mathematics, including curriculum review, in-service training for teachers, trying to recruit more qualified teachers, motivating students, improving government education funding effective teaching methods, improving students-to-book ratios, and better teacher compensation.

Adalikwu and Iorkpilgh (2013) looked into how the chemistry curriculum in senior high schools in Cross River State affected students' school achievement. The study used a two group, pre-test, post-test quasi-experimental approach. To direct the investigation, one assumption and one research question were created. With the help of stratified random sampling and basic sample selection approaches, 100 high school one Chemistry students were chosen from five (5) schools

in the Yakuur Local Government Area of the Cross River State. Forty-five SSI students received education using teaching aids, and another fifty received instructions without them. A standardized Chemistry Assessment Instrument, and a split-half analysis utilizing the Pearson product moment correlation produced a reliability index of 0.67. At a significance level of 0.05, an independent t-test was employed to evaluate the hypotheses, and the research questions were analysed using the Pearson product moment correlation coefficient. This study found that students who were taught using teaching aids outperformed students who were taught without them, and that using teaching aids generally helped students understand topics and had excellent academic results. The use of instructional resources in the teaching-learning of chemistry was encouraged as a way to improve the school achievement of chemistry students.

Furthermore, Tety (2016) looked at how well the chosen community secondary schools in the Rombo District use appropriate and high-quality teaching materials in the classroom and how this has helped students' school achievement. This study had three main goals: to learn what teachers and students think about how much classroom settings affect students' school achievement; to look at the difficulties teachers in society secondary schools have in getting access to teaching media; and to evaluate the methods teachers employ to overcome these difficulties. The survey used in the study was cross-sectional. All of the community secondary schools in the Rombo district were included in the research population. Five schools, at random, were chosen from among the 38 community secondary schools in the Rombo district to collect data. Twenty pupils and five teachers from each school completed a semistructured survey. Additionally, one high district education officer and the leaders of each school were questioned. The investigation came to the following conclusions: First, the success of teachers and students depends on the quality of their teaching. Second, the majority of community secondary schools in Rombo District

lack basic instructional and learning resources. Furthermore, the research showed that teachers employed a variety of tactics, including improvising and book borrowing, to lessen the difficulties associated with locating and utilizing high-quality instructional resources. The report suggests that the government allocate enough money to increase access to teaching resources across all high schools. The study suggests that some facets of how teachers and students use teaching aids for efficient learning and teaching need to be looked at in further study. A nation's economy benefits from education since it is an essential human right. That illustrates why nations around the growth in global for and raise budgetary allocations each fiscal year to fund diverse educational programs. The impact of teaching and learning resources on students' achievement at high school in Gusau, Nigeria's Zamfara State, was examined in a research by Adeniran (2020). To direct the course of the investigation in this study, three objectives and one assumption were posed. The research employed a descriptive approach, and information was gathered via questionnaire from participants in order to get their thoughts on the research topics and hypotheses put forth. All teachers in senior high schools in Zamfara State, Nigeria, made up the study's population. A combination of 50 teachers were chosen from five high school seniors in the Gusau city of Zamfara State, Nigeria, using a stratified sampling procedure. The study topics were addressed using the mean deviation. According to the research, teachers in schools did not effectively use the few resources for instruction and learning that were available because they lacked the skills and knowledge necessary for resource usage. The study therefore advised the government to increase funding for TLR requirement to enhance the quality and condition of facilities provided and utilise qualified teachers for full utilisation of learning and teaching tools. Seminars, meetings, and trainings should also be regularly organized to ensure that teachers acquire the necessary knowledge.

In Ilorin Metropolis, Kwara State, Dauda (2020) concentrated on the Effect of Instructional Material on the Academic Achievement of Computer Studies. The goal of the study was to ascertain the effect of teaching materials on primary school students' academic performance in computer studies. It uses a quasi-experimental study design. The study's guiding questions and hypotheses were divided into two categories. The population of the study consisted of all students, and the sample size was 80 in four chosen primary schools in Ilorin Metropolis, Kwara State. Data were collected using a proficiency test in computer studies. In order to answer the study objectives, the data was examined utilizing mean-test, standard deviation, and ANCOVA. The study found that the usage of instructional materials and teachers' attitudes toward piquing students' enthusiasm in computer studies are key factors in computer studies students' academic success. Because computer studies is regarded as a novel course, the results also indicated that there are considerable differences between male and female students who are taught using teaching aids.

The lecture/teaching process, particularly in higher institutions in Nigeria, calls for high-quality instructional materials to bridge the communication gap between lecturers and students for efficient understanding, but this is not always the case. The influence of teaching materials on students' academic achievement in quantitative economics at North-West State Colleges of Education (COE), Nigeria, was the focus of the researchers' work on these foundations. The project was governed by the researchers Galle, Agahu, and Riko (2020), four research questions, and one assumption. An exploratory cross-sectional survey research design was used for the investigation. All eight of the study's confirmed respondents came from the 12,320 lecturers and NCE 1 students that enrolled for the quantitative economics 2019/2020 academic year in State COE in North-West Nigeria. The study used a multi-stage stratified random selection technique to pick 1,085 economics instructors and students from seven authorized State COE in North-West Nigeria. There

were 35 lecturers and 1,050 students in total. Influence of Teaching Aids on Students' Academic Performance in Quantitative Economics Questionnaire (IIMSAPQEQ), a tool devised by the researchers for data collecting, had 9 items. IIMSAPQEQ, which was evaluated by experts and was centred on a 2-point scale from agree to disagree, produced validity and reliability scores of 0.87 and 0.82, respectively. The outcomes showed that the majority of participants believed that they don't always use any teaching aids during didactic period, that there aren't any supplies of teaching materials obtainable in their school, and that there is a major effect of teaching materials on academic achievement. Statistical technique was used to test the null hypotheses at 0.05level of significance using SPSS version 23. In order to reduce students' poor achievement in the subject, it was advised that suitable measures be taken by interested parties of colleges of education to coerce all instructors to use teaching content during the teaching and educational experience and supply teaching content to all colleges of education in Nigeria.

The impact of employing standardized and unplanned teaching materials on the academic performance of secondary school physics students in Oyo State, Nigeria, was explored by Oladejo, Olasunde, Ojabisi, and Isola (2011). The quasi controlled group pretest-posttestresearch design was chosen. Three co-educational secondary schools were chosen as the sample using purposeful sampling. One S.S. III class each school was made available for the research. The Physics Assessment Instrument and the Teachers Instructional Guides were the two tools utilized in the study to assess student performance and prepare the instructors in the experimental groups, respectively. To determine the instrument's dependability, a pilot test was conductedThe reliability coefficient was 0.76. The significance level of 0.05 was used to examine three hypotheses. The data were examined with ANOVA and ANCOVA. The findings revealed a significant variation in the academic accomplishment of students who received teaching methods, improvisation

guidance, and no training. As a consequence, the students who were taught using improvised teaching content had the highest posttest achievement score, following by those who were taught using regular instructional materials, and the lowest score for the comparison group. In furthermore, despite the that female students outscored male students in physics, there was no obvious gender difference in students' achievement. It may be concluded that neither gender nor therapy had a substantial impact on students' achievement in Physics. Therefore, physics teachers must exercise creativity in the selection, production, and use of instructional materials in order to reduce the expense of developing and maintaining learning materials. Physics instructors should be urged to use prefabricated educational materials in higher education programs since, according to studies, doing so increases the effectiveness of teaching and learning.

Another study's focus is on how instructional materials affect senior secondary school students studying physics in Enugu State's Udi Local Government Area's academic performance (Okpe, 2018). The study's goal was to ascertain how instructional materials affected physics students' academic performance. The work involved a control and experimental group pre-test and post-test. It uses a quasi-experimental study design. Two research questions and two hypotheses were developed by the researcher to direct the investigation. The population of the study was 525, and the sample size was 80 at selected four public secondary schools in the Udi Local Government Area of Enugu State. The researcher employed the Physics Achievement Test as a tool for data collection. In order to answer the study objectives, the data was analysed using mean, standard deviation, and ANCOVA. Both the face and the contents authenticity are present. Karl Pearson's reliability test results are 1.0. Correlation The study found that the utilization of instructional materials and the teacher's approach to pique the student's interest are key factors in the academic success of physics students. The findings also indicated that there are notable differences in how

instructional materials are received by male and female students because physics is seen as a challenging subject. The government should host workshops and seminars for teachers on how to employ instructional materials to pique students' attention, and educational planners should incorporate it into the curricula, were the following proposals offered.

The association between educational facilities and the school environment was investigated by Otchere, Afari, and Kudawe (2019) at Oda Senior Secondary School in the Birim Central Municipality of Ghana's Eastern Region. The goal of this study was to ascertain how school amenities impact students' school achievement and the classroom climate. An overall sample of 20 students, 10 teachers, 1 main headteacher, and 3 assistant headteachers were chosen for the study using a descriptive research design. The investigator first employed surveys for the teachers and students, followed by interview guides for the teachers and principals and then an observation guideline. Descriptive statistics were utilized in this study to assess the data. The examination of the data revealed that student learning environments and academic achievement were strongly correlated with the quality and educational sufficiency of educational facilities. These conclusions led to the recommendation that the Ministry of Education support school infrastructure adequately. This would guarantee their ability to acquire facilities in a flexible manner and to react swiftly to requests from schools. Additionally, to manage the impact of school facilities.

The Kenyan government and other partners have worked to encourage academic outcomes for students, regardless of the variety of disabilities they may have. However, students with physical impairments (PI) in Kisumu County's public primary special schools continue to struggle academically. In public primary special schools for students with PI in Kisumu County, Kenya, Nyangoya, Wachianga, and Makori (2020) investigated the physical facilities as determinants of the academic performance of pupils with cognitive disability. The goal of the study was to ascertain

the connection between physical amenities and academic success of students with PI. Maslow's motivational theory was applied in the study. Simultaneous triangulation was employed in the study's mixed research methods. 503 students with PI, 45 teachers, 2 school principals of public primary special schools for them, and a total of 550 participants made up the target group. For head teachers, the purposive sampling technique was utilized, but for teachers and students with PI, the saturation sampling technique was used. There were 168 respondents in the sample, which included 2 head teachers, 16 teachers, and 150 students with PI. A survey, interview guide, and observation checklist were used to gather the data. Cronbach's alpha, which recorded a correlation coefficient of.675 and was used to determine reliability, was used to determine content validity for validity. Quantitative data was evaluated using descriptive and inferential statistics, including multiple regression analysis and Pearson's product moment correlation coefficient, and represented using frequency distribution tables, charts, and charts.

Thematic analysis was employed to examine qualitative data. The study's findings showed that there was a significant statistically significant positive link between facilities provided and students with PI's academic progress (r=.363). Thus, it can be inferred from the present study that physical infrastructure in public primary special schools for learners with PI are major determinants of academic results of those students.

In short, this literature highlights the critical role of school facilities in enhancing students' 'academic performance'. It's clear from studies across different countries and educational levels that infrastructure, from libraries and labs to classrooms and comfort facilities, significantly influences learning outcomes. For instance, a Malaysian study linked 51.5% of student success to factors like library access and infrastructure. In Nigeria, the availability and maintenance of school facilities strongly correlated with academic results.

Other studies, including from Pakistan, Taiwan, and Kenya, also note the importance of specific facilities like sports areas, science labs, and classroom environments on student performance.

The cumulative evidence from various geographical contexts, such as Australia, Portugal, Spain, Turkey, Rwanda, and others, underscores the universal importance of well-equipped and maintained educational settings. Despite the variations in local educational challenges, the positive association between adequate school facilities and 'academic achievement' remains consistent. This poses the contextual question whether school facilities is a determinant in enhancing 'student performance' in Somaliland.

Student Ability and Academic Performance

Factorial research studies have shown that academic performance of students is also affected by the ability of the student him/herself (Oso, 2016). According to Sara (2019), student ability refers to the amalgamation of students' cognitive and non-cognitive status, high school grades, results on competitive exams, and proven leadership talents.

Student ability is characterized as both the cognitive and non-cognitive abilities (East College in Lebanon, 2019). This study has also taken he same path by operationalizing student ability into cognitive and non-cognitive abilities. Firstly, studies on the cognitive abilities have been reviewed followed by the non-cognitive abilities.

Cognitive Ability

Researchers in the field of education claim that cognitive ability is one of the subjects that has been researched the most (Newman, 2020). Cognitive ability can be defined as a general mental skill that includes reasoning, problemsolving, planning, abstract thought, understanding complicated ideas, and experience-based learning (Rammstedt, Danner & Martin, 2016).

Cognitive abilities are brain-based capabilities required to complete any activity, no matter how basic or difficult. Instead of any real knowledge, they are more concerned with the processes by which we acquire, recall, fix issues, and pay more attention (SharpBrains, 2022). Similarly, Murphy, Cronin and Tam (2003) delineates that cognitive abilities evaluate the skills involved in processing (e.g., reasoning, perception, memory, verbal and mathematical ability, and problem solving). Such exams ask candidates a series of questions intended to gauge their capacity for using their minds to resolve problems at work or learn new skills. Nevertheless, in the field of student performance, many educational researchers have thorough examined the link between academic performance and cognitive abilities. The researcher draws attention to some of these studies that delved into this topic.

Peng and Kievit (2020) assert that children's cognitive and academic growth is essential for their overall well-being. The proof for the reciprocal relationships between academic success and cognitive ability is reviewed in this article using data from recent studies. Our results indicate that (a) cognitive flexibility, rationale, and executive function, which include reading and math, anticipate one another in the growth of each skill; (b) specific academic guidance positively influences the progress in thinking (c) bidirectional relationships between intellectual capacity and school performance appear poor among children from disadvantaged backgrounds. These results are consistent with both the transactional model and the notion of mutualistic. They contend that consistent, quality schooling and education significantly promote children's intellectual and academic growth and may also have a positive impact on these areas through the induction of cognitive-academic direction

It is well acknowledged that cognitive capacity predicts academic accomplishment and that parental influence and engagement play a role in the constellations of 'factors that influence

academic performance' in children, especially in families of Chinese background. The mediation effects of parental expectations on their children's cognitive abilities in forecasting academic performance have not yet been demonstrated, despite the fact that a number of connections between these parental components have been hypothesized. In order to answer the research that parental affective variables, as demonstrated by parental home and school involvement, parental beliefs about their children's abilities, and parental assumptions regarding their children's academic total score, direct the effects of student Intelligence quotient in forecasting school performance in English, Chinese, and M, Phillipson (2012) reports using data from 780 students from one primary school in Hong Kong and their parents. The findings are consistent with the theory that by outlining their expectations for students for their kids, parents might assist them in developing their cognitive potential.

Different neurobehavioural characteristics between people may have an impact on how we understand academic accomplishment. Students in engineering or psychology at the university level were tested for neurocognitive characteristics, intellect, and present mental trauma (Pluck, Mancero, Encalada Alcivar, Gavilanez and Chacon, 2020). Grades and grade point average (GPA) information were compared. Significant differences existed between groups in the factors linked to higher GPA. For engineers, intelligence was a significant predictor of grades, but not neurobehavioral characteristics or psychological problems. According to psychologists, grades were connected with executive dysfunction, dissociation, indifference, and good schizophyte rather than intellect. This latter two, though, were related without consideration of psychological discomfort. Additionally, in the combined sample, a higher mixedhandedness was linked to a higher GPA. Depending on the researched major, distinct neurological factors—such as neurobehavioral characteristics and intelligence—are differently connected with scores at the

university. Nevertheless, it might turn out that mixed-handedness is a more accurate all-around indicator of academic achievement across fields.

Malykh, Tikhomirova, and Malykh (2020) conducted research. Analysis was done on the association between cognitive skills and academic performance from kindergarten through the eleventh grade. Scores in mathematics, languages, and biology were used to determine overall academic accomplishment. Data processing speed, visuo spatial memory, numerical skills, and fluid intelligence were deemed indicators of this performance. 1560 students in grades 1 through 11 in general education schools, with ages ranging from 6.8 through 19.1 years, participated in this cross-sectional survey. The Choices Reaction Time, Corsi Block-Tapping, and Number Sense computerised assessments were used to examine speed to process information and working memory on visuospatial and numerical skills, correspondingly. The Standard Progressive Matrices assessment, administered utilizing paper and a pencil, was used to gauge fluid intelligence. Both structural equation modelling and correlations analysis were done. It has been demonstrated that a single model can adequately capture the structure of the relationship between cognitive ability and academic performance across all levels of schooling. According to this model, the main determinant of fluid intelligence, working memory, and number sense—all of which play a role in determining individual differences in academic success—is data processing velocity.

There is a long history of using cognitive ability tests to account for significant amounts of performance diversity. They are rather constrained in terms of their therapeutic applicability and treatments validity, in comparison to other students. As an alternate, it is thought that children's visible learning behaviours improve the accuracy of both treatment recommendations and cognitive capacity projections. In the framework of cognitive capacity and academic performance, student learning habits were explored by Yen, Konold, and McDermott (2004). 1304 students,

aged 6 to 17, were used as a sample for the evaluation of three essential models. Findings confirm that studying behaviour and academic performance have a special relationship that goes above cognitive ability. The results of a multi-group structural equation modelling (SEM) analysis showed that these results held true regardless of ethnic and gender differences between groups. The results are in line with previous results that the outcome-focused standardized tests of cognitive capacity would be supplemented by children's behavioural characteristics in learning contexts.

Recent studies have shown that learning habits are linked to academic success at the college level, although it is still unclear how particular learning habits and gender variations in academic performance are related (Ruffing, Wach, Spinath, Brünken & Karbach, 2015). This study was aimed at ascertaining whether there are any gender variations in the progressive contributions of study skills to student performance predictions over general cognitive capacity. Correlation analysis were used to look at the connection between these parameters. While structural equation modelling and multi-group analyses were used to examine the incremental impact of learning methods for male and female performance, a series of t-tests were utilized to test for demographic differences in learning methods. 461 students made up the representative sample, age mean = 21.2 years an SD of 3.2. Academic performance was found to be favourably connected with general cognitive capacity, learning techniques concentration, concentration, and educational atmosphere, according to correlation studies. In the reported implementation of numerous learning techniques, gender inequalities were observed. Significantly, the structural equation modelling forecast of performance showed that only effort accounted incremental variance over general cognitive ability (10% of the variance). No gender differences were found in this prediction model, according to the results of multi-group analyses. This discovery adds to our understanding of the specific

function that learning techniques play in academic success as well as gender disparities in learning research. Identifying and enhancing successful academic performance is aided by the incremental evaluation of learning technique utilization and gender variations in their predictor.

In order to correlate academic achievement variation with both general and specialized cognitive talents, Rohde and Thompson (2007) conducted a study. Cognitive success was determined by grade-point average, Wide Range Achievement Test III, and Standardized test scores. Interests focused specifically on cognitive function, information processing, and visuospatial. Metrics of general cognition maintained their contribution to the indicators of academic attainment in a sample of 71 adults (29 men) upon attempting to control for memory recall, speed of processing, and spatial awareness, however none of the intellectual abilities explained any significant amount of variance in school performance. Nevertheless, when forecasting results for the mathematics section of the SAT while maintaining overall cognitive ability equal, computing power and spatial ability remained to account for a large amount of extra variation.

Student performance has been favourably correlated with subsequent development results, such as the fulfilment of better learning, employment, and socioeconomic objectives, according to Sánchez-Pérez, Castillo, López-López, Pina, Puga, Campoy, and Fuentes (2018). Math has been designated as one of the academic competencies that is crucial for persons seeking employment in the fields of international leadership and sciences, technology, and engineering. Studies have created trainings to improve children's mathematics abilities due to its favourable effects. Additionally, executive functions (EF), or the capacity to restrain and control one's behaviours and thoughts, have been linked to academic performance, prompting a significant effort to create EF

trainings to raise students' EF and academic performance. In the latest research, memory retrieval and mathematics problems were the two aspects of a training program on computer for students.

Wechsler Intelligence Scale for Children, Fifth Edition, and Wechsler Individual Achievement Test, Third Edition co-norming sample were used to study the relationships between adolescent and children's cognitive ability and their performance in literacy, composition, and mathematics (Caemmerer, Maddocks, Keith & Reynolds, 2018). Simulations that took into account the Cattell-Horn-Carroll broad cognitive capacities as well as models that concentrated solely on the effects of g were both examined and compared. The statistical significance of development variations in the sequences of cognitive-achievement impacts was examined using interaction terms. All readings and the majority of writing skills were directly influenced by ability to comprehend, fluid thinking by writing essays and mathematical skills, and speed of processing by reading ability, math comprehension, and mathematics calculation skills. The majority of accomplishment skills were highly influenced by working memory, which was especially critical for young kids. Powerful yet indirect through broad abilities, and frequently overlapping with the influence of fluid reasoning, g had a significant impact on all achievement skills. The study's findings indicate that cognitive capacities have varied effects on children's and adolescents' reading, math, and writing skills, some of which are agedependent.

To investigate the impact on cognitive achievement and curricular accomplishment, an instructional physical education transfection programs focusing on individual and personal accountability framework and gamification techniques was utalized (Melero-Caas, Morales-Baos, Ardoy, Manzano-Sánchez & Valero-Valenzuela) (2021). 150 participants were divided into the comparison group and the experimental class for a 9-month group-randomized controlled study. Student performance, language comprehension, planning, and control were evaluated. The post-

test revealed significant differences in favour of the EG for language comprehension (identified animals), cognitive inhibition, and the mean of both discourse completion tasks. In the EG, language comprehension (named animals), verbal communication, the average of both discourse completion duties, inhibiting cognition, language, the mean of all subject areas, subjects' matter mean, mean of core subjects all showed a significant improvement after the treatment. In particular to math, scores for the final five variables also rose in the CG. The research adds to the body of knowledge by demonstrating that both techniques improved the examined variables, but that the application of hybridization improved cognitive performance, particularly in terms of verbal fluency and cognitive inhibition.

In order to understand what influences teachers' judging reliability when measuring student performance on academic and cognitive success exams, as well as which student skills the assessment was based on, Jabrek, Cgler, Valeová, and Porteová (2022) conducted a study. The TIM3-5 test of student ability and the CFT 20-R test of cognitive capacities were given to 223 fourth grade pupils as part of the study. Ten teachers evaluated their performance using a % and a 9-point scale. Additionally, six of these teachers calculated the likelihood that a certain group of students would successfully answer two specific questions on the TIM3-5 test. The percentage rating is the most precise technique of measurement, both for the cognitive ability (r = 0.56 and academic performance. The level of assessed student aptitude and the length of the teacher's experience have no bearing on the judgment's accuracy. The degree of attributed ability and estimating accuracy are unaffected by the student's gender. In the moderately difficult item of the TIM3-5 test, teachers frequently underestimated students' abilities, while doing the opposite for the tough item. The study also offers a theoretical framework in which a student's academic performance and cognitive skills are used by the teacher to form an opinion about them. The

foundation for the teacher's evaluation is essentially the student's intellect, which is implicitly expressed in the student's academic accomplishment, according to empirical validation of this theory.

Children are seeking out information. Children must combine several but connected learning events in order to do it. The conceptual framework of memory integrating postulates that constituent cognitive abilities help to assist the process. Memory consolidation then foretells the development of a knowledge base. In two investigations (data gathered in 2016–2018), Novikova, Gridunova, Novikov, and Shlyakhta (2022) examined this model with secondand third-graders. The findings show that verbal comprehension alone is insufficient for knowledge development and lend support to the conceptual perspective and verbal comprehension's role in gaining new knowledge.

There is a dearth of research on this phenomenon in the setting of age, sex, and cognitive disparities, despite the importance of intercultural competence (ICC) growth for the contemporary character in a volatile and complex world. The current exploration study's goal is to determine the relationships among ICC, cognitive skills, and academic performance in Russian school kids. In the ninth grade of a Moscow secondary school, 106 (55% female) students were part of the study. The Intercultural Sensitivity Scale, created by Khuhlaev and Chibisova and based on Bennett's Developmental Model of Intercultural Sensitivity, was modified by the author to assess ICC. Akimova et al. assessed cognitive capacities using the School Test of Intellectual Development. Using GPA, academic accomplishments were assessed. The results of our study demonstrate that: (1) schoolchildren who do not tend to absolutize different cultures and do not view them as hurdles to intercultural communication typically have higher academic performance and cognitive skills; and (2) comparison and generalisability are the most significant predictors of ICC features from

the studied cognitive abilities. However, generalisability has different effects on male and female students. This fact should be considered in light of recent ICC developments, particularly with regard to male school students who are inclined toward ethnocentrism.

Epistemic cognition refers to the reasoning that occurs as individuals separate what they know from what they dispute, question, or reject. Effective or adaptive epistemic reasoning, which has been positively connected with school performance, supports the higher-order thinking necessary for thriving in the twenty-first century. As a result, researchers have developed a variety of educational interventions aimed at fostering students' epistemological cognition, but no thorough analysis of their effectiveness is available. In order to comprehend the impact of epistemic cognition treatments on academic performance and what qualities distinguished their effectiveness, Cartiff, Duke, and Greene (2021) carried out a meta-analysis. Our eligibility criteria were met by 26 experimental and quasi-experimental research. They discovered that epistemological cognition treatments had a statistically significant, medium-level effect on academic performance using 28 sampling methods and 59 effect sizes. According to moderator analysis, guided instruction-based treatments and models that place a strong emphasis on reasoning and the balancing of subjectivity and objectivity were more effective than other interventions, offering several intriguing directions for future study and application. Interestingly, we discovered that shorter treatments often outperformed lengthier ones in terms of improving educational outcomes.

Moreover, Logan, Lundberg, Roth, and Walsh (2017) investigated how achievement in an online distance education course was influenced by general mental capacity and motivation. The findings confirmed the hypothesis that, in a distant learning setting, higher levels of both desire and general mental ability are highly associated with academic achievement, while lower levels of

either enthusiasm or general mental ability were linked to lower standards of achievement. The findings also suggest a strong interactive effects between general mental ability and motivation in terms of how they relate to achievement. High levels of either motivation or general mental capacity alone did not result in high levels of achievement, demonstrating the importance of considering both at once. Since cognitive skills are a predictor of academic achievement, schools that enhance academic achievement may also enhance cognitive abilities.

Researchers correlated standardized achievement-test scores with measures of cognitive skills in a sizable sample (N = 1,367) of eighth-grade students who attend classical, written test, and signatory state schools Finn, Kraft, West, Leonard, Bish, Martin and Gabrieli in order to examine the effects that schools have on both academic performance and cognitive skills (2014). Measurements of cognitive abilities have a correlation with test results and changes in test results over time. Even while there was substantial diversity in test scores between schools, after they took the results from the fourth grade into account, the disparities in cognitive abilities between schools were minimal. Random enrolment offers to overcrowded charter schools had a positive effect on students' mathematics performance but no effect on their cognitive abilities. These results imply that schools that raise test scores on standardized tests of achievement do so mostly through methods other than developing cognitive abilities.

It is well known that personality characteristics and cognitive capacity can predict academic achievement. The correlations between personality, cognitive skills, and achievement, however, are they reliable and generally applicable? Brandt, Lechner, Tetzner, and Rammstedt (2020) looked into whether connections between personality (Big Five) and cognitive skills with academic achievement varied across subject areas and across capacity school based educational, building on theoretical constructs that set of characteristics connections should differ based on the

requirements and possibilities for required performance in the educational environment. In a sizable representative sample of ninth-grade students (N = 12,915) from the German National Educational Panel Study, several group models for structural equations were used. Different relationships between cognitive capacity, emotional maturity, and social competence, as well as openness and conscientiousness, were found across academic areas. Different connections for cognitive capacity, industriousness, and agreeability were found across school tracks. In the academic track compared to the other tracks, personality factors caused more heterogeneity in academic success. Across subjects, tracks, or both, trait-performance relations differed most frequently. These results demonstrate the need for a more nuanced and context-sensitive view of the relationship between traits and achievement.

Non-cognitive Abilities

Non-cognitive skills, or socioemotional skills as they are sometimes called, are becoming more and more valued, and research at the global, national, and educational levels is examining this (Joshi, 2017). As economies and labour market requirements change, so too will need for certain talents, with fundamental alterations being brought about by trends like automation. Non-cognitive skills have been linked to positive outcomes in education and the labour market, according to research. Non-cognitive skills include a variety of aptitudes like responsibility, tenacity, and cooperation (Jama, 2018). These abilities are crucial for student success, both inside and outside of the classroom. They are a vital component of workers' skill sets, which also include non-cognitive, job-specific, and cognitive abilities.

According to UNESCO (2010), the patterns of thought, emotion, and behaviour are referred to as non-cognitive skills, and soft skills are associated with drive, morality, and social interaction. Non-cognitive skills include a variety of aptitudes like responsibility, tenacity, and

cooperation. Non-cognitive skills are the social and emotional competencies that people gain through experience and time. Your professional potential can increase if you recognize the value of non-cognitive skills.

Lee and Stankov (2018) used the extensive worldwide databases of the TIMSS 2003, 2007, and 2011, as well as the PISA 2003 and 2012, to explore the dependability of non-cognitive characteristics for students' mathematics performance. In 13 research areas of psychological science, including influence, coursework exposed, schoolwork, learning and instructional time, inspiration, personal characteristics, behavioural intention, school environment, autonomy principle, self-regulatory learning style/strategies, teacher characteristics, relevance, and career interest, we produced empirical proof about 65 non-cognitive factors. In addition, identity in PISA, confidence in TIMSS, and theoretical developments in both TIMSS and PISA were found to be the greatest predictors of individual-level student accomplishment in mathematics, according to their analyses. The current analysis lends credence to the idea that students' projections of their future identities and abilities have a significant role in their academic success. In order to improve educational outcomes for pupils from various cultural and national origins, they discuss potential educational approaches.

The impact of non-cognitive abilities on academic performance of senior secondary school pupils in Imo State was explored by Obilor and Onyeaghala (2020). This study employed four hypotheses and research questions. Resilience, self-control, persistence, and self-perception were examined in the study questions as non-cognitive skills that affect academic accomplishment in Imo State's senior high schools. The study used a descriptive survey research approach, with a sample of 892 senior highschool two students drawn from Imo State's three (3) Local Government

Areas. The data was collected using the test-retest approach utilizing a standardized survey tool named "Influence of Non-Cognitive Skills on Pupils' Students Performance" with a reliability value of 0.89. In order to suit the study's information needs, data was gathered from two main sources: secondary and primary references. The gathered data were analysed using descriptive statistics like mean and standard deviation as well as an inferential statistic called oneway analysis of variance. Resilience, self-control, persistence, and self-perception were not significantly different at p 0.05, according to the study. Thus, it was determined that pupils in Imo State's Senior Secondary School 2 had higher academic accomplishment as a result of their endurance, identity, persistence, and self-perception. The development of students' non-cognitive abilities, such as resilience, self-control, perseverance, and self-perception, was encouraged in order to improve not only their academic performance but also their accomplishment in all of their endeavours. This recommendation included parents, instructors, and all other interested parties creating appropriate educational experiences.

There is growing proof that a variety of factors, both intellectual and non-cognitive, have a big impact on how well students succeed in mathematics. It is unclear how cultural characteristics and the strength of the student-teacher relationship relate to arithmetic aptitude among teenagers entering primary school. Researchers Semeraro, Giofrè, Coppola, Lucangeli, and Cassibba (2020) examined how general cognitive aptitude and non-cognitive traits like mathematics self-esteem and anxiety affect arithmetic performance. They also took into account how well the pupilteacher interaction worked. A substantial sample of sixth-graders from Italy underwent evaluation after beginning middle school. The results showed that general cognitive function was the strongest indicator of mathematical success. Academic stress was discovered to be a true indicator of mathematics achievement after accounting for other factors including self-esteem and the quality

of the student-teacher relationship. They found that the degree of the studentteacher connection and mathematical achievement were both mediated by mathematics anxiousness. Our findings suggest that the efficacy of the student-teacher connection in lowering arithmetic fear may have an impact on math achievement. They hypothesized that therapies aimed at enhancing the development of children may be beneficial in reducing academic stress and promoting instructional practices, which may have important repercussions for experts and educators.

Students that complete the clinical and didactic components of the project and qualify the licensing test are chosen for rehabilitative science programs based on cognitive and non-cognitive criteria. Academic achievement is known to be predicted by cognitive elements like prior grade point averages and exam scores, but the connection between non-cognitive factors and achievement is less obvious. This comprehensive review's goal was to investigate how non-cognitive factors affected students' academic and clinical achievement in rehabilitative science courses. The very next inclusion criteria were applied to a seek of seven database systems physical therapy postgraduate programs, occupational therapists, and speech language pathologist; systems based in the United States; assessment of at least one non-cognitive factor; quantification of academic and/or clinical performance; and quantifiable results were reported. Data were retrieved from the articles after they had been evaluated for title, synopsis, and full text. A total of 21 papers were considered for the review after the quality assurance. Studies were conducted by PT students in 76 percent of cases. The most often examined components included grit, self-efficacy, emotional intelligence, and anxiety. In clinical and academic settings, only self-efficacy, affective acuity, and character qualities were investigated at. For every non-cognitive aspect, the outcomes were inconsistent. Although stress was typically linked to worse results, higher levels of grit and self-efficacy appeared to be connected with higher results. In rehabilitative science students, neither

academic nor clinical performance was consistently correlated with any one non-cognitive characteristic. Currently, there is not enough data to support the recommendation that admission choices consider a particular noncognitive criterion.

In summary, the provided literature critically reviewed the influence of student ability 'academic achievement'. Student ability was further operationalized as cognitive and non-cognitive abilities. Cognitive skills involve mental abilities like problem-solving and reasoning, and have been shown to correlate strongly with academic success. Conversely, non-cognitive skills, such as resilience and self-control, are increasingly recognized for their influence on educational and labor market outcomes. The literature spans a diverse range of global contexts but may not reflect the specific environment of public 'primary schools in Somaliland'. The review underlines knowledge gaps and calls for research reflective of the Somaliland context, particularly regarding the current status of pupils' 'academic performance in public primary' education.

Summary of Review of Related Literature

The reviewed studies provided a careful examination of related literature on the determinants of the academic performance of pupils. The study reviewed the effects of school leadership, teacher quality, home-related issues, school facilities, student ability on academic performance. The literature reviewed however brought about pertinent knowledge gaps that formed the focus of the present study. Foremost, the study reviewed the effect of school leadership on academic performance. Most of the studies revealed that school leadership had a significant indirect effect on student performance. Instructional, transactional and transformational leadership were also directly linked to have effect on academic performance. Similarly, the remaining determinants reviewed by the researched revealed such as the teacher quality, home-related issues, school

facilities and student ability to affect performance. Further, most of the literature revealed obtained its sample population from other parts of the world such as Nigeria, Kenya, Malaysia, Russia, India, China, Ghana, Rwanda, Pakistan, USA, Chile, Latin America, Eritrea, Indonesia, Thailand, Ethiopia, South Africa, Netherlands, Spain, Italy, Botswana, Tunisia, Egypt, Algeria, Brazil, Italy, Indonesia, Canada, Singapore, Taiwan, Vietnam, Britain and others which may not be reflective of the Somaliland context. In addition, most studies were conducted in secondary schools and had their focus on other conceptualized variables and hence may not have been reflective of the current status of the academic performance of pupils in public primary schools in Somaliland.

CHAPTER 3: RESEARCH METHOD

Introduction

The chapter focused on the research methodology, including the approach and design, the group of individuals being studied, the sample size, the tools and methods used to gather data, the definitions of the research variables, and the procedures followed, including ethical considerations. The chapter ends with a brief summary of the information covered.

Education is a crucial factor for sustainable development as it leads to global competitiveness (Krstić, Filipe & Chavaglia, 2020). Education plays a significant role in the production of the national manpower that accelerates the social and economic development of the country. According to Ahmed (2018), research depicted that a country's development is linked to higher academic performance of its students.

According to Somaliland National Examinations Report (2021), the "academic performance of pupils in public primary schools in Somaliland" has been declining for the last six years. The academic performance (AP) declined 21% between 2014-2021. The decline was 31% in 2014 and 30% in 2015, 40% in 2016, 51.2% in 2017, 48.4% in 2018, 31% in 2019 and 32% in 2021. (Somaliland Country did not set exams in 2020 due to COVID 19 pandemic). The academic performance of pupils in public primary schools in Somaliland declined 38% on average, reflecting an average increase of 5.4% per year.

Despite the poor "academic performance, the very few studies that solely address in particular cities in Somaliland have been carried out. Previous study has found that a number of instructor, pupil, school, and parental influences influence student academic achievement (Amuzu, Ankalibazuk, & Abdulai, 2017; Narad & Abdullah, 2016; Okolie, Elom, & Inyiagu, 2014;

Oppong-Sekyere, Oppong-Sekyere & Akpalu, 2013; Farooq et al., 2011). Some educational researchers have linked environmental, psychological, sociological, psychological, and economic difficulties (Sign, Malik & Sign, 2016; Ali et al. 2013; Mushtaq & Khan, 2012). Most of these studies either focus on a single issue or on a small number of factors that influence academic achievement. Farooq et al. (2011), for example, concentrated on socioeconomic class and parental education level. They suggested that future research look into peer pressure, family issues, and pupil and school-related problems. The importance of conducting a large survey involving many schools to analyse kids' academic achievement was stressed by Jayanthi, Balakrishnan, Ching, Latif, and Nasiruden (2014).

Despite the fact that various research has been undertaken to investigate student academic performance around the world, there are insufficient studies to determine elements that can improve a pupil's academic performance. The very few studies that have been conducted have not looked into the academic achievement of Somaliland's public primary school students. Therefore, this study sought to address the gap in the literature by investigating the determinants that contribute the academic performance of the pupils in Somaliland primary schools.

Purpose of the Study, Research Aims and Objectives

This study had the major intent of assessing the factors that together affect the "performance of pupils' academic performance in Somaliland" public primary schools. Research has always shown that excellence in academic performance brings about a progress in the socio-economic status, healthcare improvement and infrastructure. From that fact, this study has the sole purpose of to determine how school leadership, student ability, teacher quality, and school facilities contribute to the "performance of pupils in public primary schools in Somaliland". The study is expected to come up with critical results on these issues at hand.

The study employed various research methods. Both qualitative and quantitative approaches were employed as the nature of the study dictates that. The study used qualitative research approach to garner insights and experiences of the education stakeholders in the country such as the school principals (Oso,2013). Since of the factors of the study are quantitative in nature, the study also utilized the quantitative research designs. This study used cross-sectional research design. This study allows the variables to be investigated without any manipulation. Sample was drawn randomly from the target population such as the pupils and teachers, and the principals were selected purposively. To collect data, interview guides and structured questionnaires were employed. Student scores were collated using a pro forma that compiles the test scores of the pupils in order to assess the academic performance of pupils in public primary schools in Somaliland. In particular, the study aimed to

1. Examine the effect of teacher quality with reference to pedagogical and subject matter knowledge on the "academic performance of pupils in public primary schools in Somaliland"

2. Assess how school facilities influence "academic performance of pupils in public primary schools in Somaliland"

3. Explore effect of school leadership on the "academic performance of pupils in public primary schools in Somaliland"

4. Find out the influence of student ability with reference to cognitive and non-cognitive aspects on the "academic performance of pupils in public primary schools in Somaliland"

Research Questions and Research Hypotheses

Research Questions

There are five main questions that will guide this study:

Research question 1: What is the effect of teacher quality with reference to pedagogical and subject matter knowledge on the "academic performance of pupils in public primary schools in Somaliland"?

Research question 2: How do school facilities influence "academic performance of pupils in public primary schools in Somaliland"?

Research question 3: What is the effect school leadership on the "performance of pupils in public primary schools in Somaliland"?

Research question 4: What is the effect of student ability with reference to cognitive and non-cognitive abilities on the "academic performance of pupils in public primary schools in Somaliland"?

Hypotheses

$H1_0$. Teacher quality with reference to pedagogical and subject matter knowledge has no "significant effect on the academic performance of pupils in public primary schools in Somaliland"

$H1_A$. Teacher quality with reference to pedagogical and subject matter knowledge has a "significant on the academic performance of pupils in public primary schools in Somaliland"

$H2_0$ School facilities have no "significant effect on the academic performance of pupils in public primary schools in Somaliland"

$H2_A$ School facilities have a significant effect on the academic performance of pupils in public primary schools in

Somaliland

$H3_0$. Student ability with reference to cognitive and non-cognitive aspects has no "significant effect on the academic performance of pupils in public primary schools in Somaliland".

H3$_A$. Student ability with reference to cognitive and non-cognitive aspects has a 'significant effect on the academic performance of pupils in public primary schools in Somaliland'.

Research Approach and Design

The research approach took into account the nature of the research problem, and included everything from generalizations to specific procedures for collecting, analysing, and interpreting data. The research approach used in this study is a combination of both inductive and deductive methods. The inductive approach is used when starting with observations and working towards a theory, while the deductive approach is used when working from a theory to test specific hypotheses. Both methods were employed in this study as it involved both asking questions and testing hypotheses. In terms of the design, this study will also employ both qualitative and quantitative designs. In particular, cross-sectional designs will be selected in terms of quantitative research. The discussion comes later sections of this section.

Similarly, this study utilized the inductive research approach in order to look for the explanations, assumptions and various propositions of the respondents to assess the extent to which leadership influence "academic performance of pupils in public primary schools in Somaliland". According to Goddard and Melville (2004), inductive research is a method that starts with observations and data collection, and builds theories and conclusions based on those observations. It is a bottom-up approach that allows for flexibility and adaptation as the research progresses, and concepts or assumptions are not pre-determined at the beginning of the study. The researcher is able to adjust the direction of the study as new information is discovered.

The second part of the research approach used is the deductive approach. The researcher employed this approach to test the hypothesis of whether teacher quality, "school facilities and student ability affect pupil performance in public primary schools in Somaliland". According to

Glaser and Straus (2017), deductive reasoning involves starting with a well-established social theory and using evidence to explore its implications. This approach, which is often associated with scientific research, involves evaluating past explanations of a phenomenon and examining the hypotheses that come from those theories. Bahari (2010) also describes the deductive approach as involving the creation or adoption of a theory and hypothesis before designing a research strategy to test it. This methodical approach is based on scientific concepts and involves gathering, compiling, analysing, and interpreting data in a sequential and organized manner in order to verify or refute the theory by establishing causal links between variables. Deductive research involves starting with a theory and using evidence to test its validity. This approach is commonly associated with scientific study and involves creating a solid theoretical foundation before devising a research strategy. The researcher evaluates past explanations of the phenomenon they are studying and then looks at the hypotheses that come from those theories. This method is a logical, sequential process that is used to verify or refute a theory by establishing causal links between variables. The second part of this discussion is more focused on the research design. According to Trochim and Donnelly (2001), the research design is a plan that organizes the methods and techniques used to conduct a study in order to address the main research problems and ensure a logical and convincing way of bringing together the various study components. It serves as a guide for gathering, measuring, and analysing data and is used to structure the study and show how all of the project's key elements interact.

According to Creswell (2017), an effective research design ensures that the chosen methodologies align with the research objectives and the appropriate type of analysis is used for the data. The research design is the overall strategy used to conduct research, which includes a clear and logical plan to address pre-determined research questions through the collection,

organization, analysis, and interpretation of data. As stated by Creswell & Clark (2017), research designs are the procedures used to collect, evaluate, interpret, and interpret data in research projects. This approach is useful for connecting relevant empirical research to theoretical issues. In other words, the study design determines how data will be collected, analysed, and used to answer the research question, as highlighted by Grey (2014). According to Yasin (2020), research design is defined as the structure and organization of the methods and tools used by researchers to conduct a study. This structure allows researchers to focus on developing appropriate techniques for their specific topic and to set up their investigations in an efficient and effective way. Research design involves the steps taken by a researcher to investigate relationships between variables, classify participants, administer treatments, and analyse results (Oso, 2016). In summary, it helps to ensure that the research process is logical, methodical, and that the findings are relevant to real-world situations. Research designs can be broadly divided into two categories: qualitative and quantitative. As stated by Mohamed (2022), qualitative research designs are characterized by data that is presented verbally or in a non-numerical format, while quantitative research designs are characterized by data presented in numerical form and analysed using statistical methods.

When reviewing previous studies, it was observed that a variety of study designs were utilized. Farooq et al.
(2011) employed a descriptive and survey design, Jayanti et al. (2014) used a correlational design, Oppong-Sekeyere (2013) used an action research design, MolokoPhale and Mphauli (2014) employed a quantitative design, and OseiMensah (2012) used a descriptive and qualitative design In terms of quantitative designs, this study employed crosssectional research design in particular. According to Oso (2016), a cross-sectional research design is a study carried out by investigating variables as they are without manipulation. The decision to use a mixed-methods and descriptive

study design was based on Oso's (2016) assertion and a review of previous studies. The mixed approach, which combines both numerical and non-numerical data, was deemed appropriate for this investigation as it required both quantitative and qualitative information. As noted by Dawadi, Shrestha, and Giri (2021), the collection of both types of data is a key aspect of this methodology. This research design was selected due to the need for a comprehensive examination that incorporates both quantitative and qualitative data..

In qualitative research, the design varies depending on the approach used. Different methodologies such as participant observations, in-depth interviews, or focus group discussions can be considered. Despite the variety of qualitative approaches, they all share common characteristics. The main goal of qualitative research is to gain a deep understanding of a specific issue, situation, or meaning based on first-hand experiences (Jonathan, 2022). This is achieved by using a small but carefully selected sample because data collection can be time-consuming and because the focus is on the quality of the results rather than the quantity. Additionally, qualitative research often utilizes nonstructured data collection methods, such as open-ended questions, which allow participants to express their thoughts and feelings in their own words, rather than being restricted to predefined responses. This approach allows for a deeper understanding of the subject matter and allows for the discovery of new insights and perspectives. Overall, qualitative research is a valuable approach for gaining a thorough understanding of complex and subjective issues, and it is often used in conjunction with quantitative methods to provide a more comprehensive understanding of the subject matter.

According to Tenenbaum, Gershgoren, and Schinke (2011), qualitative research involves acquiring and analysing non-numerical data, such as text, video, or audio, to understand concepts, views, or feelings. This type of research can be used to uncover complex information about a

specific situation or generate new research ideas. It is commonly used in fields like anthropology, sociology, education, health sciences, and history. The goal of qualitative research is to gain a deeper understanding of how people perceive their environment and the approaches used are often flexible with a focus on preserving the richness of the data during analysis. In qualitative research, the researcher gathers data through various methods such as participant observation, interviews, surveys with descriptive writing from participants, focus groups, observation, recordings in natural settings, documents, case studies, and artifacts (Agarry & Ogundele, 2021). The data collected in this type of research is usually non-numerical. Some common methods used in qualitative research include ethnography, grounded theory, narrative analysis, and interpretive phenomenological analysis (Creswell, 2019). These methods are often used in disciplines such as sociology, anthropology, political science, psychology, social work, and academic research (Alasuutari & Pertti, 2010). Researchers who use qualitative techniques aim to understand how people view their social environment.

This study, therefore, utilized qualitative designs to look for contextual understandings of principals, parents, officials from Somaliland Ministry of Education over the "performance of pupils in public primary schools". Nuttall, Shankar, Beverland, and Hooper (2011) state that qualitative research is a method that enables researchers to directly observe users and gain a deep understanding of their context. Researchers use smaller sample sizes, such as those obtained through interviews, to gain insights into users' attitudes, behaviours, and underlying factors, which can guide the design of the project. Qualitative research can help uncover important information about the objectives, expectations, needs, pain points, and more of the target audience, allowing researchers to keep their project on track as it progresses. In contrast, quantitative research, as defined by Nuttall, Shankar, Beverland, and Hooper (2011), uses scientific, statistical, or

computational methods to conduct a systematic investigation of occurrences. This type of research collects data through the use of sampling methods and the dissemination of survey forms, polls, and questionnaires. The social sciences primarily use statistical methodologies to obtain quantitative data from the research study. In this technique, statisticians and academics draw on mathematical theories and frameworks related to the quantity under consideration.

Likewise, quantitative research methods include methods that allow researchers to collect numerical data, such as experiments, surveys, and statistical analysis. These methods are used to examine the relationship between variables and to make predictions about future events. The design of a quantitative study must be carefully planned in order to ensure that the data collected is accurate and representative of the population being studied. The results of a quantitative study are often presented in the form of tables and charts, and statistical tests are used to determine if any significant relationships or differences exist between variables. (Creswell, 2014)

In this study, the researcher employed statistical data on the variables of teacher quality, student ability and school facility to enable comparisons between the means. According to Kothari (2004), Quantitative research design is a systematic process of planning a study that uses quantitative research methods. It involves using large sample sizes and collecting numerical data through various techniques such as surveys, polls, and questionnaires. The data is then analysed using statistical methods to make numerical comparisons and assessments to verify or refute the main idea of the study. Quantitative research is commonly used in the sciences and social sciences, including fields such as biology, chemistry, psychology, economics, sociology, and marketing (Sullivan, Vetter, & Frost, 2021; Bhandari, 2022). Babbie and Maxfield (2014) assert that quantitative research methods prioritize precision in measurements and encompass the statistical, mathematical, or numerical analysis of data acquired through surveys, questionnaires, polls, and

the manipulation of historical statistical data via computational techniques. The aim of quantitative research is to understand specific events or make generalizations about groups of people by gathering numerical data. It requires accurate data, logical reasoning, and an unbiased perspective. The focus of quantitative research is on precise, convergent thinking rather than divergent thinking. In summary, quantitative research is a scientific method of investigation that uses mathematical and

statistical techniques to analyse numerical data collected through surveys, polls, questionnaires, and other methods. The goal is to establish relationships between variables, generalize findings across groups of people, and make accurate measurements. It is often used in the sciences, social sciences, and other fields to understand specific events or phenomena. Pedamkar (2020) also states that this type of research differs from other forms of analysis in that it focuses on numerical data and employs mathematical analysis to investigate what is being studied. The design of quantitative research is either descriptive or experimental, in which participants are typically examined only once. Quantitative research allows for the use of statistical analysis and mathematical models to understand and make predictions about a particular phenomenon or population. By using standardized and objective measurements, researchers can determine the frequency, patterns, and relationships in the data collected (Kothari, 2004). The results obtained through quantitative research can be generalized to a larger population, making it a useful tool for understanding and making predictions about complex social phenomena

The mixed research methodology enables the gathering of both quantitative and qualitative data, fostering a more thorough comprehension of the research subject. This approach facilitates triangulation, enhancing the study's validity and reliability, as outlined by Creswell and Clark (2017). Additionally, the employment of both qualitative and quantitative research methods allows to examinaning the same phenomenon from different perspectives, providing a more in-depth

comprehension of the research question (Tashakkori & Teddlie, 2003). In summary, the combination of both qualitative and quantitative research methods in a mixed research approach provides a more holistic understanding of the research topic and allows for the validation of findings through the triangulation of data Mixed methods research is useful in situations where a single approach might not provide a complete understanding of the phenomenon being studied, and where the integration of multiple perspectives can provide a more comprehensive understanding (Creswell & Plano Clark, 2018). In this research, a blended utilization of qualitative and quantitative research methodologies was employed to offer a more exhaustive insight into the research inquiry. This approach aimed to delve deeper into the participants' experiences and perspectives, contributing to a richer understanding of the subject matter.

Likewise, this study opted for a mixed-methods research design to enable the comprehensive collection and analysis of both quantitative and qualitative data. The intention was to attain a thorough understanding of the research question through the integration of diverse data sources and analytical approaches and factors affecting students' school achievement in "Somaliland's public primary schools". This approach was chosen as it is believed that combining different data types and methods can lead to a more comprehensive understanding of the phenomenon being studied, and can also mitigate any biases present in individual methods. According to Creswell (2011) and Oso (2016), this approach is commonly used in healthcare and education research. In particular, the study employed convergent research design. According to Creswell (2018), the convergent research design is a single-phase approach wherein both quantitative and qualitative data are gathered and analysed. Subsequently, the analysis of the quantitative and qualitative data is compared to ascertain whether the findings align or diverge.

Population and Sample of the Research Study

Most of the time researchers are faced with very large populations which they cannot effectively deal with at large. For example, a researcher who wants to investigate why schools in a particular region are performing poorly will be concerned with each and every individual that contributes to the performance of students in a school (Mohamed, 2018). A target population is the total group of individuals from which the sample might be drawn (Ali, 2019).

Target Population and Sample Size

The target population of this study comprises the students, teachers, and principals of public primary schools in Somaliland. The target population is described as objects that the intervention intends to conduct research in and draw conclusions from. In cost-effectiveness analysis, characteristics of the target population and any subgroups should be described clearly. As per Kelley, Clark, Brown, and Sitzia (2003), the target population denotes the complete population or group that captures the researcher's interest for investigation and analysis. A sampling frame is then drawn from this target population. This certain group of the population shares similar characteristics and is identified as the intended audience for a product, advertising or research. It is a portion of the whole universe of people selected as the objective audience. The complete assembly of individuals or objects that the researcher aims to apply the study findings to is referred to as the population. In this study, the population of interest encompasses individuals, individuals, groups, organizations, or other entities that are the focus of understanding, and the study results can be extended or transferred to this primary group. It constitutes the central focus of the research.

Populations create boundaries for the scope of a study and provide environmental and context cues for thereader (Casteel & Bridier, 2021). Such boundaries place natural delimitations

upon the research to afford the researcher the proper focus so as not to present a one-size-fits-all set of results. The definition of boundaries also allows the researcher to clearly identify subpopulations, such as the target population, sampling frame, and sample, and to ensure alignment between these groups within the research (Salkind, 2010). The target population, as outlined by Casteel and Bridier (2021), is a distinct, conceptually defined group of potential participants accessible to the researcher. This group mirrors the characteristics of the broader population of interest. To be successful in defining the target population, one must examine all the boundary considerations in an iterative manner to ensure that the end description of the target population is inclusive enough to provide sufficient data to the study. The target population must also be exclusive enough to avoid having participants who do not represent the study's needs, which will misrepresent the population of interest. Much like the population of interest, the boundaries of the target population must be defined such that the researcher and other stakeholders understand the nature and extent of the group to be studied. Such considerations are important not only for ensuring the efficacy of the research, but also assist in budgeting resources for investigating the problem. A well-defined target population describes inclusion and/or exclusion criteria for who or for which entities may participate in the study. The target population must be a complete subset of the population of interest – members of the target population must also be described by the boundaries of the research population being investigated.

The research participants such as students, teachers, principals were received from the database system of the Ministry (EMIS, 2022). After this, using the developed sampling frame that depicts the sample size from each group were recruited, the researcher established interest and willingness to participate the study by sending emails, phone calls and meetings.

Sample Size

Sample size is used in market research for defining the number of individuals considered to conduct research (Bali, 2022). In statistics, the sample size is the measure of the number of individual samples used in an experiment. Sample size *is* mainly determined by the sample design, required accuracy of estimates, and resource constraints.

Using stratified sampling and purposive sampling techniques, the sample size was 454 participants. Their age range between 13-50. Students in public primary schools in grade 7 are currently 14586 in Somaliland (Ministry of Education, 2022). According to Krjecke & Morgan Table (1970), a target population of 14586 can be drawn a sample size of 394. In the purposive sampling, to gain meaningful insights and information, 40 teachers, 20 and principals who had been in the teaching profession of primary schools more than 10 years were selected . Palinkas, Horwitz SM, Green, Wisdom, Duan Hoagwood (2015) state that purposive sampling is used to select information-rich respondents related to the phenomenon of interest. After this, using the developed sampling frame that depicts the sample size from each group to be recruited, the researcher established interest and willingness to participate the study by sending emails, phone calls and meetings. On the qualitative aspect sample saturation is important and that 20 interviewees would be adequate for reaching saturation on the case of school principals. In a systematic review by Hennink and Kaiser (2022), they reviewed 23 research articles and depicted that data saturation would be reached between 9-17 interviews.

Sampling Techniques

This study employed both stratified and purposive sampling techniques. Sampling involves the selection of a representative subset from the population being studied, as stated by Saul (2014).The selection of components of the sample that will give a representative view of the whole

is known as sampling technique (Trochim, 2004). The study used stratified sampling technique to select the sample. Stratified sampling is employed when the population has distinct and mutually exclusive subgroups; that means a member cannot belong to more than one sub-group at the same time (Oso, 2016). Different sampling methods are widely used by researchers in research that they do not need to research the entire population to collect actionable insights.

Stratified Sampling Technique

In a stratified sample, researchers categorize a population into homogeneous subgroups known as strata, characterized by specific attributes such as race, gender identity, location, etc. Every individual in the population is assigned to one and only one stratum. In the context of this study, each "public primary school in Somaliland" cities is placed within a distinct stratum for the purpose of sample selection. In stratified random sampling, or stratification, the strata are formed based on members' shared attributes or characteristics, such as income or educational attainment.. The strata are formed based on some common characteristics in the population data. After dividing the population into strata, the researcher randomly selects the sample proportionally. Stratified sampling is a common sampling technique used by researchers when trying to draw conclusions from different sub-groups or strata. Stratified sampling, according to Edge, Lee, and Dursun (2022), is a randomized sampling technique that starts with dividing a population into smaller subgroups, or strata, that are identified by shared features among its constituents. Stratified sampling is a systematic sampling approach where the research population is first divided into distinct subgroups, or strata, based on specific shared characteristics. These strata are then individually considered, and samples are randomly selected from each to form a more representative and comprehensive final sample. This method ensures that each subgroup is adequately represented, contributing to a more accurate reflection of the overall population in the

study. Researchers employ stratified sampling for several reasons. One primary advantage is that it allows for the consideration of specific "subgroups" within a population, enhancing the representation of diverse characteristics (Edge, Lee, & Dursun, 2022). By dividing the population into 'strata' based on shared characteristics, researchers can ensure a more accurate and nuanced understanding of the 'entire population' (Saul, 2014). This method is particularly valuable when there are notable variations in the attributes of interest, such as race, gender, or location, as it ensures that each subgroup is appropriately represented in the final sample (Casteel & Bridier, 2021).

Stratified sampling is a technique for acquiring a sample that accurately reflects a population, which has been subdivided by researchers into relatively 'homogeneous subgroups', or 'strata'. The purpose of employing stratified sampling is to guarantee the inclusion of specific subgroups in the sample, facilitating the attainment of precise estimates for the characteristics of each group. Many surveys use this method to understand differences between subpopulations better. Stratified sampling is also known as stratified random sampling. (Frost, 2022). Stratified sampling is a selection method where the researcher splits the population of interest into homogeneous subgroups or strata before choosing the research sample. This method often comes to play when you're dealing with a large population, and it's impossible to collect data from every member. (Formplus, 2022).

In stratified sampling the proportions are determined, and then simple random sampling occurs within each stratum until the proportionate sub-sample size is reached. The simple random sampling within each stratum allows for probabilistic representation of other (secondary) characteristics that may not be of interest to the study, while the stratified sampling ensures a

probabilistic representation. Stratified sampling is used in most large-scale surveys because of its various advantages, some of which are described below:

(i) Estimation of subpopulations: In cases where the estimates of the population characteristics are needed not only for the entire population but also for its different subpopulations, one should treat such subpopulations as strata. For example, in a national unemployment survey, the government may be interested in estimating unemployment figures for the entire country as well as at provincial levels. In this case, each province can be taken as a stratum.

(ii) Administrative convenience: The agency conducting the survey may stratify the population such that the survey can be supervised in an efficient manner, e.g., the agency can appoint separate supervisors to conduct survey for each of the strata separately.

(iii) Representativeness of sample: In stratified sampling, formation of strata and allocation of samples to different strata may be done in such a way that the sample can represent the population with respect to the characteristics under study. For instance, if researchers want to select a sample of students from a school, which represents the different races of South Africa, a simple random sampling without replacement (SRSWOR) sample from the entire school may not be representative. In this situation, a stratified sampling using different racial groups as strata is expected to provide a more representative sample than an SRSWOR sample from the entire school.

(iv) Efficiency: Stratification may increase efficiency of the estimates by forming strata in such a way that each stratum becomes homogeneous with respect to the characteristic under study. Suitable sampling schemes to the respective strata may increase efficiencies of the estimators.

(v) Improved quality of data: Improved quality of data may be obtained by employing different types of investigators to different strata. For example, investigators knowing local languages may

be deployed to the rural areas, whereas in urban areas investigators knowing English may be more advantageous.

Formula used:

Sub-group sample size = sub group (stratum) population x sample size

Total population

Using that formula, the following samples were drawn from each region of the six regions of Somaliland.

Table 1

Sample of Students Drawn from the Six Regions of Somaliland

Name of the region	Sample of students drawn
Marodijeh	170
Togdher	98
Awdal	40
Sahil	30
Sanaag	31
Sool	25

Purposive Sampling Technique

Purposive sampling, as defined by Creswell (2017), is a purposeful and non-randomized sampling strategy wherein researchers intentionally pick participants based on specific criteria aligned with the research goals. In contrast to random sampling techniques, purposive sampling is directed towards selecting 'individuals' who bring distinctive perspectives, experiences, or traits

relevant to the study. This methodology proves beneficial in scenarios where researchers seek profound insights from particular individuals or 'groups', aiming to gather substantial and meaningful information for the research inquiry. Purposive sampling is when researchers thoroughly think through how they will establish a sample population, even if it is not statistically representative of the greater population at hand. This method and it occurs when "elements selected for the sample are chosen by the judgment of the researcher (Black, 2010). Researchers often believe that they can obtain a representative sample by using a sound judgment, which will result in saving time and money. This number has been selected to reach a saturation which is important for a qualitative data. Data saturation is the point in a research process where enough data has been collected to draw necessary conclusions, and any further data collection will not produce value-added insights (Glaser & Straus, 1960). Failure to reach data saturation has an impact on the quality of the research conducted and hampers content validity (Yasin, 2022).

Similarly, purposive sampling is further referred to a group of non-probability sampling techniques in which units are selected because they have characteristics that you need in your sample. In other words, units are selected "on purpose" in purposive sampling. According to Nikolopoulou (2022), a purposive sample is where a researcher selects a sample based on their knowledge about the study and population. The method is about selecting samples from the overall sample size based on the judgment of the survey taker or researcher. In other words, a purposive sample is collected according to the requirements of the test, survey, or research that it'll be used for. (Vijayamohan, 2022). As utilized in qualitative and mixed methods research, purposive sampling involves an iterative process of selecting research subjects rather than starting with a predetermined sampling frame.

Table 2

Sample of Teachers Drawn from the Six Regions of Somaliland

Name of the region	Sample of teachers drawn
Marodijeh	15
Togdher	10
Awdal	6
Sahil	3
Sanaag	3
Sool	3
Total	40

Table 3

Sample of Principals Drawn from the Six Regions of Somaliland

Name of the region	Sample of principals drawn
Marodijeh	10
Togdher	2
Awdal	2
Sahil	2
Sanaag	2
Sool	2
Total	20

Materials/Instrumentation of the Research Tools

Primary data collection is a process of collecting original data, directly from the source. It is used in research to gather first-hand information about a problem or topic. Primary data is

collected and evaluated to test the hypothesis and find answers to the research questions. Primary data is information that is acquired directly from source by the researcher. In this study, secondary data was also be utilized when acquired from the other sources.

The study used a structured questionnaire for students and teachers while a structured interview was used for principals. The incorporation of various research instruments was essential to enhance the credibility and consistency of the collected data. Additionally, it facilitated a thorough understanding and interpretation of the study variables. Mohammad (2013) argues that the use of different types of instruments for collecting data and obtaining the information from different sources helps to augment the validity and reliability of the data and their interpretation.

Questionnaire for Pupils and Teachers

The instrument employed to gather data pupils and teachers" OECD Teaching and Learning International Survey(TALIS)" a modification by the researcher. The changes made to the TALIS were meant to collect objective data for the study based on academic rationalism, technological orientation, social reconstruction and instructional approaches. According to Oso (2016), questionnaires can collect adequate information in reasonably short period of time, ensure information needed is easily narrated and also ensure confidentiality, thus questionnaires were appropriate for use in this study. The questionnaire was organized into distinct sections, with one part focusing on gathering background information from respondents, including demographics. The remaining sections specifically addressed the study objectives.

The questionnaire was a structured, it was close-ended questions to provide respondents with alternatives in Likert scales that made it easy for them to understand the study variables under study. Close-ended questions also enabled the respondents to respond to questions that may have been sensitive in a straight forward manner and also made it easier to summarize and analyse data

collected more efficiently. Thorndike & Thorndike-Christ (2010) and Fink (2013) argue that closed -ended questions help in answering sensitive questions, provide alternatives that help in avoiding irrelevant answers to questions and are easier to analyse statistically. To make it easy for the respondents, the researcher took much time to translate the items in the questionnaire for the respondents since English is the second language for instruction in "Somaliland public primary schools". Therefore, the research instruments that were used are:

A) Teacher quality questionnaire

B) School facilities questionnaire

C) Student ability questionnaire

Teacher Quality Questionnaire with Reference to Pedagogical and Subject Matter Knowledge

In this objective, the researcher adopted questionnaire to assess the effect of teacher quality on the "academic performance of pupils in public primary schools in Somaliland". The researcher employed the "Teaching and Learning International Survey adopted by OECD countries (TALIS)".

The TALIS questionnaire ensures that respondents fully understand the questions and are not likely to refuse to answer, lie to the interviewer or try to conceal their attitudes. This questionnaire is organized and worded to encourage respondents to provide accurate, unbiased and complete information.

The first section elicits demographic information of the respondents like gender, age group, educational qualification, years of teaching experience and the length of time spent in the current school. These demographic questions were important since they help to determine whether the data source was valid and dependable. No personal information, such as name, phone number, or email address, is requested. Furthermore, the introductory information puts the participants at ease

before responding to the questions. Closed-ended questions within a questionnaire are designed to offer respondents a predetermined set of response options, constraining the spectrum of potential answers. These questions follow a structured format, frequently employed to elicit specific and quantifiable data, thereby streamlining the subsequent data analysis process. Creswell and Creswell (2017) advocate for the adoption of closed-ended questions in questionnaires, underscoring their effectiveness in providing a more direct and efficient means of data collection, particularly when the objective is to quantify responses and subject them to quantitative analysis. Such questions commonly entail choosing from predefined options, including multiple-choice selections, rating scales, or Likert scales.

In the questionnaire, Likert Scale was employed to elucidate information from the respondents (teachers). A Likert scale is a psychometric scale commonly involved in research that employs questionnaires Roopa, S., & Rani, M. S. (2012). It is the most widely used approach to scaling responses in survey research, such that the term is often used interchangeably with rating scale, although there are other types of rating scales. Likert scale survey questions are essential in measuring a respondent's opinion or attitude towards a given subject and is an integral part of market research. Likert scale a five, seven, or nine-point agreement scale used to measure respondents' agreement with various statements. A Likert scale with 5-point agreement has been employed. The closed-ended questions designed on a Likert scale are ranging from 1 to 5, with 1 equivalent to (strongly agree) and 5 corresponding to (strongly disagree).

School Facilities Questionnaire

In this objective, the researcher examined the effect of "school facilities on the academic performance of pupils in public primary schools in Somaliland" country. Therefore, the researcher employed questionnaire validated by 'Organization for Economic Cooperation and Development'

(OECD) intended to assess the schools that take the international exams "Program for International Student Assessment" (PISA). This information will help illustrate the similarities and differences between groups of schools in order to better establish the context for students' test results (Saeed, 2017). For example, the information provided may help to establish what effect the availability of school facilities may have on student achievement – both within and between countries.

This tool accommodates 29 items that elicit the information on the school facilities and resources. The closed-ended questions designed on a Likert scale are ranging from 1 to 5, with 1 equivalent to (strongly agree) and 5 corresponding to (strongly disagree). The first section elicits demographic information of the respondents like gender, age group, educational qualification, years of teaching experience and the length of time spent in the current school. These demographic questions were important since they help to determine whether the data source was valid and dependable. No personal information, such as name, phone number, or email address, is requested. Furthermore, the introductory information puts the participants at ease before responding to the questions.

Student Ability Questionnaire with Reference to Cognitive and Non-cognitive Aspects

In this objective, the researcher adopted questionnaire to elicit information pertaining on the effect of student ability on the "academic performance of pupils in public primary schools in Somaliland" country. The tool consists of 56 items to elicit firsthand information about the effect of student ability in the "academic performance of pupils in public primary schools in Somaliland" country. 29 out of the 56 items measure student cognitive ability while 27 measure non-cognitive aspects. This is a compilation of cognitive and no cognitive instrument that together constitute the student ability. The cognitive assessment questionnaire, originally called the cognitive failures questionnaire (CFQ) was developed by Broadbent et al. (1982) to assess the frequency with which

people experienced cognitive failures, such as absent-mindedness, in everyday life - slips and errors of perception, memory, and motor functioning. It was later named as cognitive assessment questionnaire and was validated by PubMed. The non-cognitive tool was also validated by UNESCO, report 2016. The tool consists of 56 items to elicit first-hand information about the effect of student ability in the "academic performance of pupils in public primary schools in Somaliland" country.

The study looks for how teacher quality, school leadership, home-related issues and school facilities affect "academic performance of pupils in public primary schools in Somaliland" under the supervision of Dr. Rachel Monde Kabeta.

Part I: Background Information

Please provide the following information about yourself by filling in the blank spaces after each question or by ticking (✔) the selected alternative.

1. Your gender: female ☐   Male ☐   Prefer Not to State ☐

2. Age: 20 – 25 ☐   26 – 30 ☐   32+ ☐

Your school   .

Other

3. What is your employment status?

Full time [   ]   Part time [   ]

4. What is your highest level of formal education?

Diploma [   ]   Bachelor [   ]   Masters [   ]

5. For how long have you been teaching?

Less than 3 years [   ]   3-6 years [   ]   7-10 years [   ]

+ 10 years [   ]

6. Are you a registered teacher at the Ministry of Education?

Yes [   ]   No [   ]

Part II.

This study is aimed at investigating Determinants of "Academic Performance of Pupils in Public Primary Schools" in Somaliland Country. The study looks for how teacher quality, school leadership, home-related issues and school facilities affect academic performance of pupils in public primary schools in Somaliland under the supervision of Dr. Rachel Monde Kabeta.

Kindly offer your consent to answer fill this questionnaire.

I consent voluntarily to be a participant in this study.

Date……………………………………………………….

Informed Consent Box (Tick if consented).

TEACHER QUALITY QUESTIONNAIRE (Pedagogical and Subject Matter Knowledge)

Keys: SA. Strongly Agree, A. Agree, NC. No Comment DA. Disagree, SDA. Strongly Disagree

No.	Statement	SA	A	NC	DA	SDA
1.	I have regularly attended courses/workshops (e.g. on subject matter or methods and/or other education-related topics)					

2.	I attended Education conferences or seminars (where teachers and/or researchers present their research results and discuss educational problems)					
	I earned qualification programme (e.g. a degree programme)					

3.	I participated in a network of teachers formed specifically for the professional development of teachers					

4.	I participated in individual or collaborative research on a topic of interest to me professionally					
5.	I undertake mentoring and/or peer observation and coaching as part of a formal school arrangement					
6.	I attended reading professional literature (e.g. journals, evidence-based papers, thesis papers)					
7.	I was engaged in informal dialogue with my colleagues on how to improve my teaching					
8.	I have attended professional development on content and performance standards in my main subject field(s)					
. 10	I have attended trainings on student assessment practices					
. 11	I have attended classroom management practices training					
. 12	I have a deep knowledge and understanding of instructional practices (knowledge mediation) in my main subject field(s)					
. 13	I have adequate ICT skills for teaching					

. 15	I often engage in student discipline and behaviour problems					
. 16	I work with school management and administration					
. 17	I engage in extra-curricular activities with students (e.g. school plays and performances, sporting activities)					
. 18	I play a significant role in school development initiatives (e.g. curriculum development group, development of school objectives)					
. 19	Thinking and reasoning processes are more important than specific curriculum content for me					
. 20	I attend staff meetings to discuss the vision and mission of the school					
. 21	I discuss and decide on the selection of instructional media (e.g. textbooks, exercise books)					
. 22	I ensure common standards in evaluations for assessing student progress					
. 23	I discuss and coordinate homework practice across subjects					
. 24	I review with the students the homework they have prepared.					
. 25	I present new topics to the class (lecture-style presentation).					

. 26	Students work in small groups to come up with a joint solution to a problem or task.					
. 27	I give different work to the students that have difficulties learning and/or to those who can advance faster.					
. 28	At the beginning of the lesson I present a short summary of the previous lesson.					
. 29	I regularly check my students' exercise books.					
. 30	My students work on projects that require at least one week to complete.					
. 31	I work with individual students.					
. 32	I check, by asking questions, whether or not the subject matter has been understood.					
. 33	I administer a test or quiz to assess student learning.					
. 34	I ask my students to write an essay in which they are expected to explain their thinking or reasoning at some length.					
. 35	Students work individually with the textbook or worksheets to practice newly taught subject matter.					

. 36	Students hold a debate and argue for a particular point of view which may not be their own.					

Keys: SA. Strongly Agree, **A.** Agree**, NC.** No Comment **DA.** Disagree**, SDA.** Strongly Disagree

Part I: Background Information

Please provide the following information about yourself by filling in the blank spaces after each question or by ticking (✔) the selected alternative.

Name of your school

District

Region

1. Your gender: female   male   Prefer Not to State

Other

2. Age: 14 – 17 18+

Part II.

This study is aimed at investigating "Determinants of Academic Performance of Pupils in Public Primary Schools in Somaliland Country. The study looks for how teacher quality, school leadership, home-related issues and school facilities affect academic performance of pupils in public primary schools in Somaliland under the supervision of Dr. Rachel Monde Kabeta.

Kindly offer your consent to answer fill this questionnaire.

I consent voluntarily to be a participant in this study.

Date…………………………………………………….

Informed Consent Box (Tick if consented).

SCHOOL FACILITIES

Keys: SA. Strongly Agree, A. Agree, NC. No Comment DA. Disagree, SDA. Strongly Disagree

No	Statement	SA	A	NC	D	S

1.	We have adequate classrooms for better learning engagement.				
2.	There are adequate Textbooks in the classrooms.				
3.	Students feel comfortable in the labouratory for undertaking experiments.				
4.	We have library that helps us access to reference books.				
5.	We Computer rooms to undertake vital projects assigned by teachers.				
6.	Apart from textbooks our teachers have teacher guides.				
7.	We have adequate chemicals in the lab for experimentation.				
8.	We have adequate supplementary books and journals in the library.				
9.	Students have adequate and accessible stationaries in the school.				
10.	Scarcity of resource breeds unhealthy learning environment e.g. lack of toilets.				

11. The school has not adequate ventilation and lighting; some classes may go unattended in adverse weather .					

12.	Learners lack confidence and motivation in the school.				
13.	Students are involved in designing, collecting and making some teaching aids.				
14.	The teachers use charts to illustrate what they are teaching to students.				
15.	The teachers use the chalk boards to illustrate and make clear their teaching.				
16.	The teachers use drawings on paper and clip boards as when providing instructions in class.				
17.	The teachers guide the students in their discussions using several visual materials.				
18.	Teachers use appropriate charts and diagrams for the immediate illustration of science lesson.				

19.	The teachers are provided with teaching discussion guides that enable them in their discussions.					

20.	The school has not adequate ventilation and lighting; some classes may go unattended in adverse weather .					
21.	The teachers use specimen and practical items to demonstrate practical subjects.					
22.	The teachers use effective labouratory equipment in teaching for the science subjects.					
23.	The demonstrations on gardens, chemicals and their application are used in teaching by teachers.					
24.	Teachers use the required apparatus in carrying out the practical teaching to students.					

25.	The teachers also employ practical teaching and demonstration classes were the students are given the instruction materials for teaching.					
26.	The exact practical materials are used by the teachers in their teaching on day to day basis.					
27.	The teacher uses audio recordings for teaching to students in classes.					
28.	The teachers past instructor's recordings for teaching in classes.					
29.	The teachers use past exam papers to prepare students for the next exams.					

Part I: Background Information

Please provide the following information about yourself by filling in the

blank spaces after each question or by ticking (✔) the selected alternative.

Name of your school

District

Region

1. Your gender: female [   ]   male [   ] Prefer Not to state [   ]

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2. Age: 14 – 17 [   ]   18+ [   ]

Part II.

This study is aimed at investigating Determinants of "Academic
Performance of Pupils in Public Primary Schools" in Somaliland Country.
The study looks for how teacher quality, school leadership, home-related
issues and school facilities affect academic performance of pupils in public
primary schools in Somaliland under the supervision of Dr Rachel Monda
Kabeta.

Kindly offer your consent to answer fill this questionnaire.

I consent voluntarily to be a participant in this study.

Date……………………………………………….

Informed   Consent   Box   (Tick   if
consented).

STUDENT ABILITY QUESTIONNAIRE (Cognitive and Non-cognitive Abilities)

Keys: SA. Strongly Agree, **A.** Agree**, NC.** No Comment **DA.** Disagree**, SDA.**
Strongly Disagree

No.	Statement	SA	A	NC	DA	S
1.	I enjoy analysing subject content and thematic issues personally in order to understand it better.					
2.	I feel I must understand every word of what I read or hear in every subject in class.					
3.	I have no problem concentrating amid noise and confusion while studying.					
4.	I think individual study is the key to effective subject learning.					
5.	I prefer working alone to working with other people.					
6.	Receiving feedback from other people really doesn't affect my learning at all.					

7.	I usually look for solutions to my learning challenges by thinking through and acting on my skills and experiences.					
8.	I usually pick my books and read even when my classmates are relaxing in the fields.					

9.	I don't like it when other activities interfere with my learning timetable.					
10.	I need a quiet environment in order to concentrate well in my studies.					
11.	I have no problem concentrating amid noise and confusion while studying.					
12.	I find it tedious and boring to analyse the subject					

	content and thematic issues.				
13.	I don't mind reading or listening on the subject teaching without understanding every single word as long as I 'catch' the main idea.				
14.	I think discussion is the key to effective subject learning				
15.	I really enjoy working with other people in pairs or groups.				
16.	I find feedback useful as a means of understanding my problem areas.				
17.	I usually seek to know what other people would handle similar challenges and try out the various ways of solving them.				
18.					
19.	I can read well when my classmates are settled and focused for individual studies around me.				
20.	I like it when I'm exposed to various activities in between my learning timetable to break the monotony of continuous studying.				
21.	I fail to notice important noticeboards in the school.				
22.	I fail to listen to student's names when I am meeting them.				
23.	I sometimes something and later realize that it can be taken as insulting.				
24.	I fail to hear people when I am doing something.				
25.	I sometimes leave important exercises unanswered for days.				
26.	I sometimes forget the appointments I have with my classmates.				
27.	I forget where I put my notebooks and textbooks.				
28.	I accidently throw away some important notes.				
29.	I have overcome setbacks to conquer an important challenge.				
30.	New ideas and projects sometimes distract me from previous ones.				
31.	My interests change from year to year.				
32.	I have been obsessed with a certain idea or project for a short time but later lost interest.				

33.	I often set a goal but later choose to pursue a different one.					
34.	I have difficulty maintaining my focus on projects that take more than a few months to complete.					
35.	I become interested in new pursuits every few months.					
36.	When confronted with a problem, I give up easily.					
37.	I put off difficult problems.					
38.	I remain interested in the tasks that I start.					
39.	I continue working on tasks until everything is perfect.					
40.	When confronted with a problem, I do more than what is expected of me.					
41.	People would say that I have a very strong discipline.					
42.	I often act without thinking through all the alternatives.					
43.	Sometimes I have trouble making my friends and family realize how angry or upset I am with them.					
44.	I rarely show my feelings or emotions.					
45.	I can accurately tell what a person's character is upon first meeting him or her.					
46.	I always seem to know what peoples' true feelings are no matter how hard they try to conceal them.					
47.	I am very good at maintaining a calm exterior even if I am upset.					

Keys: SA. Strongly Agree, **A.** Agree**, NC.** No Comment **DA.** Disagree**, SDA.** Strongly Disagree

Interview

Interview Guide for School Leadership

Interview Guide for the Principals

A structured interview guide was used to collect data the school principals on the determinants of the "academic performance of pupils in public primary school" in Somaliland. Each interview began with a detailed explanation of the study, its significance and ethical considerations.

The interviews was recorded and later listened to and transcribed. The interview transcripts was conceptualized as an integral part of understanding the study objectives. In the first objective, the researcher sought to examine the effect of school leadership on academic performance of pupils in public primary schools in Somaliland. In this study, school leadership a qualitative variable which is an independent variable. It is dissected as instructional leadership and transformational leadership.

The researcher adopted interview guide to elicit information pertaining on the effect of school leadership on the "academic performance of pupils in public primary schools" in Somaliland country. An interview guide is a list of topics or questions that the interviewer hopes to cover during the course of an interview (Abdirahman, 2015). It is called a guide because it is simply that—it is used to guide the interviewer, but it is not set in stone. Interview guides should outline issues that a researcher feels are likely to be important. Participants are asked to provide answers in their own words and to raise points they believe are important, so each interview is likely to flow a little differently. This is aimed at acquiring much data on qualitative aspect of the school leadership. Therefore, qualitative interview will be conducted. Qualitative interviews are sometimes called intensive or in-depth interviews. These interviews are considered semi-

structured because the researcher has a particular topic for the respondent, but questions are open-ended and may not be asked in the exact same way or order to each respondent. The primary goal of an in-depth interview is to hear what respondents think is important about the topic at hand and to hear it in their own words.

In terms of the construction of the interview guide, the researcher adopted the OECD tool for leadership Teaching and Learning International Survey. The researcher excerpted the sections concerning leadership with minor modifications. According to Rutkowski, Rutkowski, Bélanger, Knoll, Weatherby and Prusinski (2013) The "OECD Teaching and Learning International Survey" (TALIS) is an international, large-scale survey of teachers, school leaders and the learning environment in schools. TALIS uses questionnaires administered to teachers and their school principals to gather data. This has been adopted since self-constructed tools are discouraged. This tool accommodates 28 items. The first 12 items address the transformational leadership while the 16 others relate to instructional leadership.

Respondents might think that qualitative interviews feel more like a conversation than an interview, but the researcher is guiding the conversation with the goal of gathering information from a respondent (Ponizovsky-Bergelson, Y., Dayan, Y., Wahle, N., & Roer-Strier, D. (2019). Qualitative interviews use open-ended questions, which are questions that a researcher poses but does not provide answer options for. Open-ended questions are more demanding of participants than closed-ended questions for they require participants to come up with their own words, phrases, or sentences to respond.

Part I: Background Information

Please provide the following information about yourself by filling in the blank spaces after each question or by ticking (✔) the selected alternative.

Name of your school

.

female ☐   Male ☐ Prefer Not to state ☐

1. Your gender:

☐

Other

2. Age: 25-30 31 – 39 ☐

40+ ☐

☐

3. What is your highest level of formal education?

Diploma ☐   Bachelor ☐   Masters ☐

4. How many years have you worked as a teacher?

Less than 3 years ☐   3-6 years ☐ 7-10 years ☐

+ 10 years ☐

5. Are you a registered teacher at the Ministry of Education?

Yes ☐   No ☐

6. How many years have you worked as a principal?

Less than 3 years ☐   3-6 years ☐ 7-10 years ☐

+ 10 years [   ]

    7. Have you received professional development courses?
       Yes No [   ]   [   ]

Part II.

This study is aimed at investigating Determinants of "Academic Performance of Pupils in Public Primary Schools" in Somaliland Country. The study looks for how teacher quality, school leadership, and school facilities affect academic performance of pupils in public primary schools in Somaliland under the supervision of Dr. Rachel Monde Kabeta.

Kindly offer your consent to answer fill this interview guide.

I consent voluntarily to be a participant in this study.

Date…………………………………………………….

Informed Consent Box (Tick if consented).

SCHOOL LEADERSHIP INTERVIEW GUIDE

1. What do you perceive to be the most important roles and responsibilities of a school principal?
2. What role do you believe the school principal plays in improving student learning?
3. What factors do you think contribute most to teachers' growth? How or what does the principal contribute in developing these factors
4. What should/do teachers expect after a walkthrough/observation from their principal?
5. Which principal leadership practices do you believe have the strongest relationship to student achievement
6. What actions do you put in place to improve teaching practices and skills?
7. How often do you review school administrative procedures and reports and why?
8. What actions do you undertake to ensure teachers carry the responsibility for improving student learning outcomes?
9. What is your opinion towards a professional development plan?
10. What actions do you put in place in order to set a proper school climate?
11. How do you define and communicate school mission?
12. How do you create a collaborative school environment?
13. To what extent do you promote incentives for teachers?
14. How do you monitor student progress during learning?
15. To what extent do you encourage teachers to use instructional time for teaching and practicing new skills and concepts
16. To what extent do you use tests and other performance measures to assess progress toward school goals
17. To what extent do you make clear who is responsible for coordinating the curriculum across grade levels (e.g. the principal, vice-principal, or teacher-leaders

18. To what extent do you point out specific strengths in teacher's instructional practices in post-observation feedback (e.g. in conference or written evaluation)?
19. To what extent do you communicate the school's mission effectively to members of the school community
20. To what extent do you ensure that classroom priorities of teachers are consistent with the goals and direction of the school
21. To what extent do you use needs assessment or other formal or informal methods to secure staff input on goal development?

22. How does your school respond to changes when needed?
23. How does this school readily accept new ideas?
24. To what extent does the school co-operate with the local community?
25. To what extent do you undertake class observation and provide feedback to teachers?
26. To what extent do you work with teachers to ensure standards for assessing student progress?
27. Does the school have a culture of shared responsibility? To what extent?
28. What is the status of collaborative culture of mutual support in the school?

Operational Definition of the Variables

A variable is a characteristic (or an attribute) that can take a variety of forms (or values) at different times, or in different people, or in different places, or in different circumstances (Oso, 2016). Research involves studying variables and their relationships. There are usually two main variables in any study: the independent and dependent variables. There are, however, several other variables which are more or less variations of these basic three.

The Independent Variables

An independent (or a predictor) variable refers to the conditions that a researcher controls (or changes) in order to test its effect on some outcome (Amin, 2005). It is the variable which the researcher chooses to study and manipulates in terms of amount or level, in order to assess its effect another variable. Independent variable can be classified as treatment, organismic, or potential manipulated, or stratification variables. A treatment variable, also known as experimental, or manipulated or intervention variable is that variable that a researcher actually manipulates by changing its levels or amount, or form, and which the researcher actually assigns participants of the research.

In this study, the independent variable is the determinants of academic performance such as teacher quality with reference to pedagogical and subject matter knowledge, school leadership, school facilities and student ability with reference to cognitive and non-cognitive aspects. An independent variable is usually presumed to affect another variable (Oso, 2018). The other variable that the independent variable is presumed to affect is called the dependent or criterion or outcome variable. Thus, a dependent variable manifests observable changes attributable to the influence of an independent variable. In our example above, alcohol is the independent variable and ability to remember mathematical facts is the dependent variable. In this study, "academic performance" is

the dependent variable. Ideally, a study only 'the independent variable' should influence the dependent variable.

The independent variable 1, teacher quality is operationalized as the amalgamation of teacher's pedagogical knowledge and subject matter knowledge. This is a categorical variable that dissects the independent variable into categorical groups. A categorical variable has values that you can put into a countable number of distinct groups based on a characteristic. Interval scale will be used to collect and measure data where intervals between two points are of equal distance. Teacher quality will be measured using the Teaching and Learning International Survey. In independent variable 2, school facilities, is operationally defined as the land, buildings and furniture. It includes physical facilities for teaching spaces and ancillary rooms. This an independent variable which is categorical. School facilities will be measured using the OECD questionnaire for measuring. In independent variable 3, student ability, is operationally defined as the amalgamation of student's cognitive and non-cognitive skills. Student ability has been further dissected into cognitive ability and non-cognitive ability. Cognitive ability was measured using the questionnaire of Cognitive Assessment Questionnaire validated by PubMED while non-cognitive assessment was measured using UNESCO validated questionnaire.

The Dependent Variable

'Academic Performance' is the measurement of student achievement as mean student scores from the academic subjects of summative tests. This is the dependent variable of this study. The dependent variable should also be measured on a continuous scale. A continuous variable is a variable that can take unlimited number of values between any two points; or a variable whose values vary along a continuum, and which can assume any value within a specific range. Academic performance will be measured using pro forma or student scores.

Study Procedures and Ethical Guidelines

In order to conduct the 'study', the researcher first obtained approval from the university's ethics committee (UREC) and then received permission letter from the Ministry of Education, Department of Formal Education and individual school principals. This involved visiting the schools and presenting the approval letter from the university to the Ministry of Education. Once permission was granted, the researcher met with teachers, students, principals, and parents to explain the purpose and methods of the study, including the use of questionnaires, interviews, and document analysis. Ethical considerations were also discussed with the participants, and those who agreed to participate were asked to sign a consent form. For participants under 18 years old, additional ethical considerations and consent from their guardians were required.

All participants in the study including pupils, teachers and principals were given a questionnaire and interview guide to complete. They were given ample time to fill out the questionnaire, and the researcher checked the completed questionnaires to make sure all sections were filled out properly.

Ethical Assurances

The researcher obtained approval for the study from the UREC (University Research Ethics Committee) The researcher obtained the necessary approvals and permissions from relevant parties before conducting the study. This included obtaining approval from the University Research Ethics Committee (UREC) and receiving permission from the Ministry of Education of Somaliland particularly the Formal Education Department, as well as school principals, teachers, parents, guardians, and pupils. Participants were made aware of the ethical considerations of the study, including maintaining their privacy, ensuring confidentiality, and protecting their anonymity. They were also informed that their information would not be shared with any third parties. For school pupils under 18, the researcher obtained informed consent from their parents or guardians as per UREC guidelines. The researcher obtained informed consent, guardian informed consent, and gatekeeping letter from the participants.

The principle of informed consent states that individuals participating in research must make informed decisions about their participation (Nijhawan, Janodia, Muddukrishna, Bhat, Bairy, Udupa, & Musmade, 2013). In summary, participants were given detailed information about the research and were required to make an informed decision about their participation in the study. The researcher provided all necessary information about the research, including its purpose, duration, procedures, risks, alternatives, benefits, and the level of privacy and confidentiality. Participation in the study was voluntary, and participants were given the right to withdraw at any time (Hardicre, 2014). This process, called informed consent, is a crucial ethical principle in educational research as it ensures that all parties involved in the research understand their obligations and responsibilities and that the researcher has fulfilled all promises made during the research process.

Prospective participants should be provided with detailed information about the research, including the purpose, duration, procedures, potential risks and benefits, and measures taken to protect their privacy and confidentiality. It should be emphasized that voluntary participation is the option and withdrawal is another option. Informed consent is crucial in educational research as it ensures that all parties understand and agree to their roles and responsibilities in the research process. It also serves as a way to ensure that the researcher has fulfilled all ethical commitments made. In the case of children, consent should be obtained from their parents or legal guardians.

Privacy refers to the right of individuals to control the access and distribution of information about themselves. It is upheld when individuals have the ability to control who has access to information about them or who can intrude in their lives (Nissenbaum, 2020). As an ethical principle, privacy requires that the boundaries of individuals or institutions are respected and that entry into these boundaries can only occur with their permission. Privacy can be protected by avoiding unnecessary questions, reporting group responses instead of individual responses, and obtaining direct consent from participants. However, there are still threats to privacy such as when information is obtained without the knowledge of the individual or when information obtained through informed consent is shared with others without the individual's knowledge (Kelman, 1977).. In some cases, researchers may discover issues with participants that require the intervention of a third party, which may require the sharing of privileged information, compromising the participant's privacy. Due to advancements in technology, it has become simpler for individuals to access information about others without obtaining their consent.

In order to protect the privacy of participants, researchers use methods such as referring to participants by numbers instead of names, destroying original data when it is no longer needed, and collecting data in a way that it cannot be linked to specific individuals. This is known as

confidentiality, and is an ethical principle that ensures that information provided by participants or data collected in a study is not shared with third parties without their explicit permission (Kaiser, 2012). This is done to protect the participants and maintain the integrity of the research.

Educational researchers prioritize the information gathered over the identities of the participants, while still recognizing the importance of the source of the information. They give participants the option to remain anonymous by not requiring personal information, and ensuring that participants' identities are not revealed in the research process, as per the ethical principle of anonymity (Gordon, 2019). To preserve anonymity, researchers report group data rather than individual data.

In addition, a researcher must ensure accuracy of information and that results are based on data, provide feedback to the researched population, acknowledge any shortcomings, and not report findings that are not supported by the data. The researcher should also show the utmost respect for the researched population and research sites, leaving the site undisturbed as much as possible at the end of the study. and not to manipulate results to align with preconceived notions. They are expected to maintain integrity throughout the research process. Researchers should also ensure the accuracy of information, base results on data, provide feedback to the research participants, acknowledge any limitations in the research, and not report findings that are not supported by the data. Khan (2015) pinpoints that the ethical conduct of educational researchers is a crucial aspect of the research process. Aluwihare-Samaranayake (2012) reiterates that participants have the right to expect that researchers will act with sensitivity towards human dignity and had honourable intentions throughout the study. Researchers are also expected to be unbiased in their collection, analysis, and interpretation of data and avoid manipulating the results to conform to pre-conceived notions. The researcher should also maintain integrity and accuracy

of the information and report only what is found in the study (Anney, 2014). They should also show respect for the research participants and the research sites and leave them undisturbed upon the completion of the study.

In the first week, the data collection procedures, such as administering the questionnaire and conducting interview guides, were initiated. Teachers and students were given a maximum of two weeks to complete the questionnaire. The researcher followed all necessary ethical guidelines, such as obtaining informed consent and ensuring privacy, confidentiality and anonymity throughout the entire research process. During the first week, data collection procedures, such as administering questionnaires and conducting interviews, began. Participants were given a maximum of two weeks to complete the questionnaire.

Data Collection and Analysis

Two types of data were collected for the study – quantitative (questionnaire) and qualitative (interviews) data to gain a robust understanding of the relationship existing among the study variables. Both types of data were gathered simultaneously.

Collection of Quantitative Data

The researcher directly requested permission from the principals of the chosen schools for teachers and children to take part in the study. The principals gave the lists of teachers who met the requirements for the study's inclusion, i.e., those who had been at worked for school for more than five years. The researcher was permitted for the majority of school settings to brief teachers and students on the research in separate rooms before distributing consent forms and questionnaires to those who agreed to participate in the study. Parents and guardians were also asked for their informed agreement. The individual was urged to answer every question on the questionnaire by the researcher.

The research title, the researcher's name and contact information, the researcher's university, the objective of the study, the kind of teacher information to be gathered and how the data would be used in the study were all specified on the consent form. It also lets the instructors know that involvement is entirely voluntary and that anyone can leave the study at any time without having to give a reason. Additionally, it claimed that the participant's identity and the data submitted were both protected. Some schools gave the researcher a week to collect the completed surveys, while others gave the researcher two weeks. 436 questionnaires in total were distributed. A rate of return of 86% was obtained out of this total, or 376. This occurred as a result of carefully reviewing the returned survey responses and eliminating those participants who left many questions unfilled or incomplete. The "IBM Statistical Package for Social Sciences (SPSS)", version 28, was used to code the survey's data.

Collection of Qualitative Data

Since they "give credence to common people, enable them to openly explain their living conditions in their own thoughts, and open for a close personal relationship between the researchers and their subjects," interviews are one of the most effective methods for gathering data (Kvale, 2006, p.481). One benefit of conducting interviews is the enhanced likelihood that the respondents will divulge crucial, truthful information about the leadership styles of their principals and how these influence their motivation and turnover intentions. Purposive sampling was utilized to pick principals mostly based on their desire to engage.

Respondents who decided to participate in the interview procedure completed a consent form and coordinated the interview's modalities, timing, and location with the researcher. Prior to each interview, the researcher acquired consent from the participants to audio-record them

and made them aware of their right to leave the interview at any moment without penalty. The interviewees' inquiries about the interview process received equal attention from the investigator.

Data collection employed probing, semi-structured inquiries. Using a recording device and note taking of all the interviews were made. Face-to-face interactions were used for all interviews. Some of the in-person interviews took held at schools in places chosen by the participants, with some taking place in the nights as requested by the respondents. Following the interviews, the researcher wrote down the responses and presented them to the participants for acceptance and review.

Data Analysis Techniques

Analysis of Qualitative Data

A qualitative data analysis approach used to examine the research question 1 that pertains to school leadership and student performance.

Research Question 1: What is effect of school leadership on the "academic performance of pupils in public primary schools" in Somaliland?

The variety of techniques and methods known as qualitative data analysis (QDA) are used to transform the collected qualitative data into an explanatory and interpretative paradigm (African Medical and Research Foundation, 2009). Unlike quantitative research, which presents hypotheses at the start of a study, qualitative research does not. Instead, as the study goes on, hypotheses come to light from the data. Although some hypotheses are changed or altered as new ones are developed, others are promptly abandoned. In order to analyse qualitative data, one must combine the knowledge gleaned from numerous sources into a cogent account of what has been seen or otherwise acquired. No statistics are employed inferentially; rather, they are used in a descriptive way.

Thematic analysis was the best method to use for analysing qualitative data for this objective. The versatility of theme analysis, according to Braun and Clarke (2016), should make it the basic technique for qualitative analysis. It is a useful and often employed strategy in the examination and seeking patterns that undergo reporting themes in the data. Additionally, theme analysis can understand several facets of the research issue, which can take the data even farther. Themes that emerged from the qualitative data were found and discussed in this study. For the goal

of corroborating and convergent evidence, recorded and transcribed interviews were examined. To capture the emerging themes of the research variables, synchronized conceptual and theoretical frameworks were employed.

Technically, a thematic analysis is referred to as a strategy of seeking pattern form the qualitative data that is then used to be reported and explained for the deemed stakeholders. The approach rigorously analyses and simply organizes your set of data. Nevertheless, "it frequently goes beyond this and analyses different facets of the research issue" (Boyatzis, 1998). According to Braun and Clarke (2006), thematic analysis is a method used to identify and investigate recurrent patterns in qualitative data. This method involves searching through data collections to identify structured reactions or meanings that have been acquired from the research topic. Themes are more abstract concepts that require more analysis and incorporation than categories, which are used to describe and organize the "manifest content" of data collections (Nowell et al., 2017). Thematic analysis is a method for condensing data, but it also requires interpretation by the researcher when selecting codes and developing themes. One of the unique characteristics of thematic analysis is its adaptability, allowing it to be used within a wide range of theoretical and methodological frameworks and to be applied to a wide range of study topics, methodologies, and sample sizes (Braun and Clarke, 2006).

According to studies, thematic analysis is a good starting point for qualitative researchers who are new to the field (Braun and Clarke, 2006, 2012; Clarke and Braun, 2017; Nowell et al., 2017). However, it is important to note that the choice to use this method should be based on the specific goals of the study, rather than on its ease of understanding. Thematic analysis is particularly useful when trying to understand a group of concepts, sentiments, or behaviours that are prevalent throughout a data collection (Braun and Clarke, 2012).

Thematic identification can be done by researchers using either the two approaches such as deductive and inductive (Braun & Clarke, 2012). According to Varpio (2019), in grounded theory, a researcher employs an inductive methodology that draws themes from the scientist's data. These themes may not perfectly fit the inquiries that were made of interviewees because they are data and may not directly reflect the researcher's personal interests or beliefs in the area (for instance, if participants veered off topic) (Braun and Clarke 2006). Deductive approaches, on the other hand, identify areas of interest by adopting a theoretical framework, paradigm, or another researcher-driven emphasis (Braun and Clarke 2012; Varpio et al. 2019). A deductive approach is beneficial for focusing on a specific aspect of the data or finding that can be better understood or explained within the context of an existing model or structure.

The inductive technique therefore appears to give a broader, greater expansive evaluation of the full body of facts (Braun and Clarke 2006). Any approach is legitimate, but it's critical to describe it so that readers may accurately assess and interpret findings. In summary, the following chart depicts the most recommended approach for thematic analysis (Terry, Hayfield, Clarke, & Braun, 2017). Therefore, the researcher employed this chart when analysis qualitative data.

Table 4

The Stages of Thematic Analysis by Braun and Clarke 2006

Stage	Stage Explanation
1. Crafting the Priori Codes Development of *a priori* codes	identifying crucial theoretical topics that could serve as the emergent codes initially for arranging the data. (Boyatzis, 1998).
2. Data familiarization	field notes and data transcription, data reading and rereading, and initial concept jotting
3. Conducting theory-driven coding collecting information relevant to each a priori code through rigorous data coding for each respondent, the field notes, and the full data set.	
4. Revisiting and updating codes as well as Examining and modifying theoryperforming theory guided coding driven coding in light of the data. At this point, further coding that is not constrained by the a priori codes is performed, and inductive (datadriven) labels are applied to the data.	
5. Seeking for new themes putting codes together into themes, and gathering all information pertinent to each topic	

6. Reviewing and Scrutinizing themes	Creating the thematic "map" of the study and confirming that the themes are connected to the coded excerpts and the complete data set are two ways to assess the themes' plausibility
7. Generating the report	Finally, the advent themes are to be analysed using, clear, vivid, captivating extract instances are chosen, picked excerpts are subjected to a final analysis, the evaluation is connected to the research questions and pertinent literature, and an academic report of the analysis is produced .

Analysis of Quantitative Data

In the analysis of quantitative data, a combination of descriptive and inferential statistics was utilizedThe demographic information was better understood with the aid of descriptive statistics in the form of frequency tables and percentages. In particular, the frequency, percentage, means, and standard deviation of the other research variables were provided. There was also be a graphic depiction of the data. In terms of inferential statistics, the hypothesis for inferring information about a population by analysing random samples were to put to the test. Generalizations about a population are what inferential statistics are intended to do.

'Research question 2': What is the effect of teacher quality with reference to pedagogical and subject matter knowledge on the "academic performance of pupils in public primary schools" in Somaliland?

Research question 3: How does school facilities influence "academic performance of pupils in public primary schools" in Somaliland

Research question 4: What is the influence of student ability with reference to cognitive and noncognitive aspects on the "academic performance of pupils in public primary schools" in Somaliland.

The researcher's second objective is to investigate how teacher' quality with reference to pedagogical and subject matter knowledge affects students' academic achievement in Somaliland's public elementary schools.

Teacher quality pertains to the attributes, competencies, and characteristics possessed by educators that contribute to their effectiveness in fostering student learning and development (Darling-Hammond, 2017). In the education realm, the concept of teacher quality encompasses various elements, such as pedagogical skills, expertise in the subject matter, interpersonal capabilities, and the ability to cultivate a positive and inclusive learning environment. Research consistently underscores the importance of teacher quality in shaping student outcomes. Darling-Hammond (2017) stresses that well-prepared and proficient teachers play a crucial role in influencing both student achievement and engagement. Successful teaching entails the adept use of instructional strategies, effective classroom management, and the skill to tailor instruction to meet the diverse needs of students. The continual assessment and improvement of teacher quality are vital for enhancing educational outcomes. Essential components in this process include professional development, mentorship programs, and ongoing training, as identified by Ingersoll and Strong (2011).

In the analysis of this, both descriptive statistics and inferential statistics were employed to analyse the quantitative data collected for the second objective. Tables and figures will be used to present the results. The t test at the 95% level of significance will be used to test hypotheses about the variations in ways that teacher quality is used. In the examination of effects, Onen (2014)

comparisons are made between group means. To compare the means of two groups, a t-test is often used, as suggested by Oso (2017). This study will use a t-test to compare the means of two groups, one with high with high pedagogical and subject matter knowledge and with teachers with low with reference to pedagogical and subject matter knowledge, based on the continuous variable of academic performance. T-test is a statistical test that is commonly used in hypothesis testing to determine if a treatment or process has a significant effect on the target population or to determine if there is a difference between two groups. It is important to consider whether the groups being compared are from one population or two, and whether the variation in a specific trend is being examined when choosing a t-test (Oso, 2017).

Bevans (2020) states that when comparing two groups that come from separate populations, such as two different animals or people from two different cities, it is essential to use a two-sample t-test, also known as an independent t-test. The most important values to provide in your t-test results report are the t-value, p-value, and test degrees of freedom. When there is a statistically significant difference between the two groups, these will inform your readers. However, the Independent Samples t Test result also contains an estimated t statistic that is independent of the presumed equal population variances. The Welch t Test statistic can be used in situations when it is unrealistic to assume that populations will vary similarly in variance.

Different variances t test and uneven variance t test are other names for the Welch t test. The results of the Independent Samples Test table are presented in two rows: one for when equal variances are predicted, and another for when equal variances are not assumed. If Levene's test indicates that the variances are similar between the two groups, the first row of output, "Equal variances predicted" should be considered when analysing the results of the Independent Samples t Test. However, if Levene's test shows that the variances are not equal across the two groups, the

second row of output, "Equal variances not assumed" should be the focus when interpreting the results of the Table output on t test.

The difference between the two rows of output in the Independent Samples Test table is determined by the way the t-test statistic is calculated. When equal variances can be assumed, the calculation is based on shared variances; otherwise, un-pooled variances are used, along with an adjustment for the degrees of freedom.

For objective four, quantitative data analysis was used for analysing data gathered. In order to determine the effect of school facilities and 'students' academic achievement' in Somaliland's public primary schools, correlation analysis has been used in this objective. This is due to the fact that correlation is a parametric test that is used when a sample is drawn at random. The most prevalent kind of inferential statistics, known as parametric statistics, are those that are produced with the intention of extrapolating sample results to the population that the sample represents (Allua & Thompson, 2009). When compared to nonparametric tests, parametric tests make more or fewer assumptions about the population's characteristics. For example, parametric tests presuppose that the population the sample represents was drawn at random, and that the distribution of data within the population has a recognized underlying pattern. These assumptions that the distribution is normal is the one that is made most frequently. Moreover, the correlation statistic displays the extent to which two or more variables vary together (Gantsho & Sukdeo, 2018). When two variables increase or decrease together, it is referred to as a positive correlation, and when one variable increases while the other decreases, it is considered as a negative correlation.

If the fluctuation of one variable precisely predicts a similar fluctuation in another variable, it leads to the assumption that a change in one variable is caused by a change in the other variable.

However, correlation does not always imply causation as there might be an unknown factor that affects both variables in a similar way. According to the Australian Bureau of Statistics, correlation is a statistical technique that can be used to identify whether and how closely two variables are related. Even though the correlation between variables may be obvious, there may be other, unexpected relationships present in your data. Additionally, one might be aware of correlations but not know which ones are the strongest. Therefore, a thorough correlation analysis can help to better understand the data. Likewise, the use of correlation depends on a few fundamental assumptions. The variables are taken to be independent and to have been picked at random from the population; they both have a normal distribution; the connection of the data is homoscedastic (homogeneous), where heteroskedasticity have varying variances in different groups; and it is postulated that there is a linear connection between the two variables. In the event that there are outliers in the data, the correlation coefficient is unsatisfactory and makes it challenging to interpret the relationships between the variables. A scatterplot's appearance can provide insight into the direction and strength of a link between two variables. However, it is insufficient on its own to establish whether there is a relationship between two variables. It is necessary to provide a qualitative description of the relationship shown in the scatter graph. Correlation coefficients are descriptive statistics that describe how closely two variables are related to one another.

The correlation method proposed by Bewick, Cheek, and Ball (2003) is used to determine if there is a linear association between two variables, given that certain data-related assumptions are met. However, it is important to exercise caution when interpreting the results of the analysis, particularly when searching for a causal relationship. Some commonly used correlation coefficients are Pearson correlation, Kendall rank correlation, and Spearman correlation. In this

research, the Pearson correlation coefficient was utilized to examine the relationship between the

facilities of schools and the academic performance of students in public primary schools in

Somaliland.

In using Pearson Correlation, Oso (2016) puts:

> The most popular technique for analysing numerical variables is the Pearson correlation approach, which assigns a value between 0 and 1, with 1 denoting total positive correlation and 0 denoting total negative correlation. According to the following interpretation, a correlation value of 0.7 between two variables denotes a significant and favourable association between them. A positive correlation means that if variable A rises, then variable B will likewise increase, whereas a negative correlation means that if A rises, then B falls (Oso, p. 27).

The degree of the association between linearly related variables is frequently measured in

statistics using the Pearson correlation. In this study, the use a Pearson's correlation to find out the

linear connection exists in a bivariate association such as school facilities and academic

performance has possible assumptions. "The three possible research hypotheses for this model are:

positive linear relationship, negative linear relationship, and no linear relationship (H0:).

Correlations may be used to test two quantitative variables. Correlations can be used to predict

relationships in longitudinal studies or to identify relationships between variables" (Ali, 2020, p.

39).

In objective next objective, the researcher employed descriptive and inferential analysis

since the data is quantitative. This objective aims to investigate the influence of student ability

with reference to cognitive and non-cognitive aspects on the academic performance of students in

public primary schools in Somaliland. A descriptive analysis is a critical evaluation or a summary

of attributes from a data set, whereas descriptive statistics is the use and analysis of such statistics.

According to Mann (2007), descriptive statistics can be used to characterize a set of data's

properties using summaries of data samples. Descriptive statistics is a way of summarizing data, it is used to summarize the characteristics and distribution of one or more datasets. Inferential statistics, on the other hand, is a branch of statistics that uses analytical methods to make inferences about a population by analysing a sample selected at random. It involves producing estimates and testing hypotheses.

Therefore, the analysis of this objective was subjected to regression. Kothari (2004) outlines that regression analysis stands as a widely employed statistical technique in the social, behavioral, and physical sciences. It involves the examination and assessment of the connection between a dependent variable and one or more independent variables, also termed predictor or explanatory variables. This method proves valuable for recognizing and assessing confounding factors, allowing for necessary adjustments. The formation of the estimated regression equation is achieved through the utilization of parameter value estimates and a proposed model of the relationship. The effectiveness of this model is then tested for validation. Once deemed acceptable, the derived regression equation can be applied to predict the dependent variable's value based on the independent variables. Linear regression, a specific type of regression analysis, is utilized to explore relationships that can be graphically represented by straight lines and is applicable across various dimensions. Linear regression proves versatile in addressing a multitude of problems, and its applicability can be expanded by transforming the original variables in a manner that establishes regression coefficients between the transformed variables.

Linear regression analysis is a method used to examine the relationship between one dependent variable and one independent variable. The independent variable is used to predict or analyse changes in the dependent variable. They are often referred to as predictor or explanatory variables. A feature is considered to have a dependent variable if its value depends on the values

of independent variables. Academic achievement is the expected or dependent outcome in this study, whereas school facilities are the predictor variables. Utilizing the values of the independent variables, regression analysis is used to predict or predict the value of the dependent variable. In order to determine how much the dependent variable varies as a result of changes in each of the independent variables, it also examines the relationships between the variables.

Further, regression's main objective is to create a linear association between a dependent variable and a predictor variable with the intention of making predictions; this objective is based on the idea that functional linear relationships persist and that functional regression is superior to other approaches. Researchers can examine relationships between two continuous (quantitative) variables using a statistical method known as simple linear regression. Linear regression is a technique used to predict the value of a dependent variable, y, based on the value of an independent variable, x. It is commonly used in predictive analysis and is a vital method according to Statistics Solutions (2022). Regression analysis is used to determine if it is possible to forecast the outcome variable using a set of predictor variables and to identify which individual factors are important predictors of the outcome variable and how they affect it. The independent variable is considered as the cause and the dependent variable as the result in a cause-and-effect connection. Minimum squares method is used in Linear regression.

Limitations of the Study

Language barrier had caused much time for the translation in order to answer items in the questionnaire. Although English is the medium of instruction of Somaliland secondary schools and all private schools, public primary schools use English as a subject and do not communicate it effectively. The translation process was time-consuming, highlighting a language barrier that can affect the accuracy and understanding of the questionnaire responses. So, the researcher took

much time to translate the English to Somali for the students in order to write their responses with clarity.

The school principals who participated in the study have been concerned about the security of their job positions if certain information was disclosed. This fear could lead to biased responses or a reluctance to share candid insights during the study, thereby affecting the quality and honesty of the data collected. Therefore, the researcher convinced each principal that his/her confidentiality and privacy will be concealed and will not be shared with third party.

Managing the interview and lack of relevance to the interview questions. In this case, the researched encountered issues during interviews where questions posed to interviewees were answered but the respondents discussed other irrelevant points. The researcher managed the interview effectively also by steering the conversation back to relevant topics and ensuring that the data gathered is pertinent to the research questions.

Qualitative findings may have low generalizability (Smith, 2018). To address data saturation was attained. Qualitative research often faces criticism regarding its generalizability, as the findings are specific to a particular group at a certain time and place and may not apply broadly. To mitigate this limitation, the study aimed to achieve data saturation, a point at which no new information or themes are observed in the data. Reaching saturation enhances the depth and comprehensiveness of the qualitative analysis.

Limited gender representation. Most of the school principals were males in Somaliland. This highlights a limitation in the demographic diversity of the study's participants, where most of the school principals involved were male. Limited gender representation can influence the findings, as the perspectives may not adequately represent those of female principals.

Summary

This chapter discussed the research methodology that was applied in the research. The study deployed a mixed- method research design to investigate the determinants of "academic performance of pupils in public primary schools in Somaliland". The researcher elaborated the target population, sampling strategies, sample size drawn and data gathering approaches. To collect data from the six regions of Somaliland, structured questionnaire and semi-structured interviews were utilized in gathering quantitative and qualitative data from principals, teachers, students, parents and officials from the Ministry of Education of Somaliland. Thereafter, data screening and coding was done to prepare the data for further analysis.

For analysing data, mixed approaches were employed. In the analysis of qualitative data, the researcher deployed thematic analysis chart recommended by Braun and Clarke (2017) while quantitative data was coded in the SPSS and was further subjected to inferential statistics in order to draw conclusions from the population and to test if there is a 'significant difference' between the variables under investigation.

The following chapter presents the research results.

CHAPTER 4: FINDINGS

This chapter elucidates the findings of the study and this is done in both quantitative and qualitative forms. This study has the major intent of assessing the factors that together affect the performance of pupils' "academic performance in Somaliland public primary schools". Research has always shown that that excellence in academic performance brings about a progress in the socioeconomic status, healthcare improvement and infrastructure. From that fact, this study has the sole purpose to determine how school leadership, student ability, teacher quality, and school facilities contribute to the excellence in "performance of pupils in public primary schools" in Somaliland. The study was expected to come up with critical results on these issues at hand.

Moreover, the study employed various research methods. Both qualitative and quantitative approaches were employed as the nature of the study dictates that. The study used qualitative research approach to garner insights and experiences of the education stakeholders in the country such as the students, teachers and principals (Oso,2013). Some of the factors of the study are quantitative in nature, the study utilized the quantitative research designs. This study used crosssectional research design. This study allows the variables to be investigated without any manipulation. Sample size was drawn randomly from the target population such as the pupils while principals and teachers were purposively selected. To collect data, interview guides and structured questionnaires were employed. Student scores were collated using a pro forma that compiles the test scores of the pupils in order to assess the "academic performance of pupils in public primary schools" in Somaliland. In particular, the study focused on to

1. Examine the effect of teacher quality with reference to pedagogical and subject matter knowledge on the "academic performance of pupils in public primary schools" in Somaliland

2. Assess how school facilities influence "academic performance of pupils in public primary schools" in Somaliland

3. Explore effect of school leadership on the "academic performance of pupils in public primary schools" in Somaliland

4. Find out the influence of student ability with reference to cognitive and non-cognitive abilities on the "academic performance of pupils in public primary schools" in Somaliland

Research Hypotheses

H1$_0$. Teacher quality with reference to pedagogical and subject matter knowledge has no 'significant effect on the academic performance of pupils in public primary schools' in Somaliland

H1$_A$. Teacher quality with reference to pedagogical and subject matter knowledge has a 'significant on the academic performance of pupils in public primary schools in Somaliland'

H2$_0$ School facilities have no 'significant effect on the academic performance of pupils in public primary schools in Somaliland'

H2$_A$ School facilities have a 'significant effect on the academic performance of pupils in public primary schools' in Somaliland

H3$_0$. Student ability with reference to cognitive and non-cognitive abilities has no 'significant effect on the academic performance of pupils in public primary schools' in Somaliland.

H3$_A$. Student ability with reference to cognitive and non-cognitive abilities has a 'significant effect on the academic performance of pupils' in public primary schools in Somaliland.

Trustworthiness of Data

According Cypress (2017), trustworthiness of data refers to the degree to which the data used in the research can be relied upon as accurate and credible. This can be established through various methods, such as using a large sample size, employing rigorous data collection techniques,

and ensuring the data is free from bias. Trustworthiness of data in research is crucial for the validity and reliability of the findings. Data that is not trustworthy can lead to inaccurate or misleading conclusions, damaging the credibility of the research and potentially leading to misguided decisions or actions.

As per White, Oelke and Friesen (2012), one way to ensure trustworthiness of data is through the use of rigorous methodologies for data collection and analysis. For example, using experimental designs that control for extraneous variables and using appropriate statistical tests can help to ensure the data is accurate and unbiased. Additionally, using multiple sources of data, such as triangulation, can help to increase the trustworthiness of the findings by providing multiple perspectives on the same phenomenon. This study has adopted various statistical tests with high power test to avoid lack of credibility in data. The researcher also employed various data collections. Another important aspect of trustworthiness is the transparency of the research process (O'Kane, Smith & Lerman, 2021). This includes clearly documenting the methods used for data collection and analysis, as well as making the data and results available for others to review and replicate. Additionally, researchers should be open and transparent about any potential sources of bias or limitations in their study. It is also important to consider the ethical implications of the research, particularly with regard to the protection of participant privacy and confidentiality. The had the responsibility to obtain informed consent from participants and to ensure that their data is kept secure and protected.

Ensuring the trustworthiness of qualitative data in research involves using multiple methods to collect and verify the data, such as respondent triangulation, prolonged observation, and repeated observation. The validity of the data is established by comparing and contrasting it with other sources, like literature and internet sources. This process, known as data triangulation,

helps to confirm the accuracy of the data collected through interviews and observations. Additionally, observing the same phenomenon over a longer period of time and observing it multiple times can also contribute to the validity of qualitative data. As every researcher has their own personal biases, it is important to use multiple methods to ensure the validity and reliability of qualitative research. Two common techniques used to achieve this are triangulation and mechanical recording.

Triangulation involves using multiple data sources, theories, or methods to study a single construct. This approach is also known as convergence, integration, synthesis, multi, combined or mixed methods. The idea behind triangulation is to collect data from different perspectives and then compare and contrast the similarities and differences between them. This allows researchers to gain a more comprehensive understanding of the topic being studied. There are different ways to approach triangulation, but all aim to examine the same thing from different angles to ensure the validity and reliability of the study.

Using multiple methods and sources of data through triangulation allows for a more thorough and detailed analysis of the topic being studied. This approach also increases the confidence of the researcher in their findings. When a researcher is familiar with the problem from multiple angles, it allows for a more in-depth description and analysis than if only one method or source was used. Repeated observation is another technique that can be used to increase the validity and reliability of qualitative research. This involves interacting with data sources such as individuals, documents, and visiting the location of the study multiple times throughout the research process. Taking sufficient time to collect data and spending a prolonged period in the field can also help to test for consistency and trustworthiness of the data. The longevity of observation also ensures that more comprehensive information is obtained.

Similarly, the researcher employed triangulation to deem the utmost trustworthiness of the data. One of the main benefits of triangulation is that it can help researchers to overcome the limitations of using a single method or data source (Oso, 2016). For example, if a researcher only uses self-report measures to study a research problem, there is a risk that the findings will be biased because participants may not be truthful or may not be able to accurately report their thoughts and feelings. Triangulation can also be used to test the robustness of research findings. By using multiple methods, researchers can test the generalizability of their findings and identify any conditions under which their findings may not hold. Another benefit of triangulation is that it can help researchers to increase the reliability of their findings. Reliability refers to the consistency of the results obtained using different methods or data sources. By using multiple methods, researchers can increase the reliability of their findings by cross-checking the data and identifying any inconsistencies.

In summary, triangulation is a valuable research strategy that can be used to increase the validity and reliability of research findings. By using multiple methods or data sources, researchers can cross-check the data and identify any inconsistencies, increase the reliability of their findings, and test the generalizability of their findings. It is important for researchers to carefully plan and execute triangulation strategies in order to maximize the benefits and minimize the limitations.

Furthermore, the researcher employed credibility and dependability to check the trustworthiness of the data. Ary et al (2010) states that credibility in qualitative research pertains to the accuracy of the study's conclusions. The degree of confidence in the results, as determined by the research methodology, participants, and context, is what constitutes credibility or the extent to which the findings are truthful. Credibility refers to the trustworthiness and believability of the data in research. It concerns the extent to which the data accurately reflects the phenomenon being

studied. In qualitative research, credibility is established through the use of various techniques such as prolonged engagement, triangulation, and member checking. In quantitative research, credibility is established through the use of statistical methods, such as sample size, randomization and replication of findings. In both cases, the researcher must have a clear understanding of the research problem, a well-defined research methodology, and a rigorous data analysis process to establish credibility of the data. According to Lincoln and Guba (1985) credibility is defined as the extent to which the data produced by a study is an accurate representation of the phenomenon being studied. They argue that in qualitative research, credibility is established through the use of various techniques such as prolonged engagement, triangulation, and member checking.

In terms of dependability, the research used this technique to look for the reliability of qualitative research. Dependability, also known as consistency or stability, refers to the extent to which the findings of a study can be replicated or repeated over time. According to Guba and Lincoln (1994), dependability is a key aspect of trustworthiness in qualitative research. They argue that dependability is established through the use of various techniques such as prolonged engagement, triangulation, and member checking. In addition, dependability is enhanced by providing detailed descriptions of the research process, including the researcher's subjectivity and bias, to allow other researchers to replicate the study. Further explanations on the reliability and validity of the data is discussed in the next section.

Validity and Reliability of the Data

In the last decade, the definitions of reliability and validity in research have remained largely consistent with the definitions provided in previous years. However, there have been some developments and refinements to the definitions and methods used to assess reliability and validity. Reliability in research refers to the consistency or stability of results obtained from a measurement

tool or study. It is the degree to which a measurement tool or study produces the same results when administered multiple times.

Validity in research refers the level a study measures what it is intended to measure. It is a fundamental aspect of research, as it determines whether the results of a research can be considered trustworthy and applicable to the real world. More so, there have been some developments in the methods used to assess reliability and validity. For example, researchers have been using more advanced statistical methods such as generalizability theory and multilevel modelling to evaluate the reliability and validity of data (Shrout & Fleiss, 2019). Additionally, the importance of considering both reliability and validity together in research has been emphasized in recent years (Bland & Altman, 2019; Terwee et al., 2017). The validity and reliability of the objective's teacher quality, school facilities and school leadership rest on the validation of TALIS questionnaire. The TALIS (Teaching and Learning International Survey) questionnaire is an instrument used by the OECD (Organization for Economic Co-operation and Development) to collect data on the countries that participate in the survey. The validity and reliability of the TALIS questionnaire have been established through rigorous testing and evaluation.

Validity of a questionnaire measures what it is intended to measure. The TALIS questionnaire has been shown to have content validity, meaning that it covers all relevant aspects of teaching and learning. In addition, the TALIS questionnaire has been shown to have criterion-related validity, meaning that its scores are related to relevant external criteria, such as student achievement (OECD, 2018).

Reliability refers to the consistency and stability of the questionnaire scores. The TALIS questionnaire has been shown to have high levels of reliability, meaning that scores obtained using the questionnaire are consistent over time and across different groups of respondents. This is

established by various statistical tests such as Cronbach's Alpha, Test-Retest method (OECD, 2018). However, from the TALIS (2018) Technical report, it was reported that the internal consistency of the TALIS questionnaire was high, with the majority of the scales achieving a Cronbach's alpha of greater than 0.70, which is considered to be a generally acceptable level of reliability. The coefficients for some of the scales were lower than 0.70, but the report indicates that this is due to the nature of the scale, as it measured specific aspects of teaching and learning, rather than a general construct.

In general, Cronbach's alpha coefficient is a commonly used statistical measure of internal consistency, it's used to assess the degree of correlation between different items within a questionnaire. The value ranges from 0 to 1, where a value of 1 indicates that all the items in the questionnaire are measuring the same construct and that the questionnaire is highly reliable, and a value of 0 indicates that there is no correlation between the items.

The last objective student ability is a compilation of cognitive and no cognitive instrument that together constitute the student ability. The cognitive assessment questionnaire, originally called the cognitive failures questionnaire (CFQ) was developed by Broadbent et al. (1982) to assess the frequency with which people experienced cognitive failures, such as absent-mindedness, in everyday life - slips and errors of perception, memory, and motor functioning. It was later named as cognitive assessment questionnaire and was validated by PubMed which is regarded as the largest health research database in the world. The non-cognitive tool was also validated by UNESCO, report 2016.

Results

Overview of Participants in the Study

In this study, the determinants of "academic performance of pupils in public primary schools" in Somaliland were examined through the questionnaire for teachers and students; interview guide for principals. 336 students and 40 teachers had been administered to questionnaire while 20 principals were subjected to interview guide. Therefore, this section presents the demographics of the respondents, students, teachers, and principals.

Table 2

Demographic Information of Teachers

Variables	Characteristics	Frequency	Percentage
Licensure	Licensed	27	67.5%
	Not licensed	13	32.5%
Teaching Experience (years)	Less than 3 years		
		1	2%
	10+	18	45%
	3 – 6	2	5%
	7 – 10		
		19	47%
	10 +	18	45 %
Level of education			

Variables	Characteristics	Frequency	Percentage
	Diploma	25	62.5%%
	Bachelor Degree	15	37.5%
Employment Status	Full time	10	25%
	Part time	30	75%

The study employed forty (40) teachers from the six regions of Somaliland country in the sampled schools. In terms of their licensure, twenty seven (27) of the teachers were licensed by the Ministry of Education. This means that 67.5 of the teachers who participated in this study were under the payroll of the government while thirteen (13) teachers (32.5%) where not licensed and were not patrolled by the Ministry of Education of Somaliland. Interestingly, the age of the licensed 27% teacher was between 26-30, while the unlicensed 32.5% teachers age was between 31-40. In terms of the employment status of teachers in public primary schools that participated in this study, ten teachers (25%) were full time while 30 teachers (75%) were part time teachers.

Regarding the teachers' educational background, fifteen teachers (15) had bachelor degree while twenty five (25) had a diploma. This means that 37.5% of the teachers had earned bachelor degree while 62.5% had diploma. In regard to the experience of the teachers who participated in this study, 1 teacher (2%) had less than three years of teaching, 2 teachers (5%) had three to six

years of experience in the teaching practice, 19teachers (47%) had spent seven to ten years in the teaching profession while only 18 teachers (45%) had ten years and more.

Background Information of Students

In regard to the students who took part the research, out of the 336 students, 187 were males while 149 were females.

Background Information of Principals

The principals that participated in this study were twenty (20) from the six regions of Somaliland. Seventeen of them (85%) were male, while three (15%) were females. Thirteen of the principals (65%) had bachelor degree while the remaining 7 (35%) had certificates and diplomas.

Research Question 1

Research Question 1/Hypothesis:

Research question 1: What is the effect of teacher quality in terms of subject matter and pedagogical knowledge on the academic performance of pupils in public primary schools in Somaliland?

Hypotheses

$H1_0$. "Teacher quality in terms of pedagogical and subject matter knowledge has no significant effect on the academic performance of pupils in public primary schools" in Somaliland?

$H1_A$. Teacher quality in terms of possessing pedagogical content and subject matter knowledge has a "significant on the academic performance of pupils in public primary schools" in Somaliland?

This research objective is to investigate how teacher' quality pedagogical and subject matter knowledge affects "students' academic achievement" in Somaliland's public elementary schools.

Both descriptive statistics and inferential statistics were employed to analyse the quantitative data collected for the second objective. Tables and figures will be used to present the results. The t test at the 95% level of significance will be used to test hypotheses about the variations in ways that teacher quality is used. Teacher quality was further operationalized as the extent to which teachers possess both pedagogical and subject matter knowledge. Respondents reacted on the items provided the questionnaire in order to determine the extent which these variables affect each other.

Table 6

Descriptive Statistics of Students Taught by Different Teacher Groups

	TQgroups(PSK)	N	Mean	Std Deviation	Std Error Mean
AP	Low	18	57.22	5.399	1.272
	High	22	76.88	8.796	1.875

Note. *TQ (PSK) is teacher quality groups with reference to pedagogical and subject matter knowledge.*

Table 6 shows the descriptive statistics of "academic performance of pupils in primary schools" in Somaliland regions against different groups of teachers with various levels of pedagogical and 'subject matter knowledge'. It indicates that the average "performance of students taught by high pedagogical and 'subject matter knowledge' (76.88%, S = 8.79)". This was higher than the performance of the students taught by teachers with low pedagogical and subject matter knowledge (57.2%, S = 5.39). Nevertheless, 'performance of pupils having teachers with high pedagogical and subject matter knowledge levels were higher than the performance of pupils taught by teachers with low (57.2%, S = 5.39)'. This pointed out to the fact that 'academic performance of pupils' increases with teachers' quality in terms of pedagogical and subject matter knowledge. However, Jacob et al. (2020) results suggest that teacher quality with reference to

pedagogical and subject matter knowledge affects "performance of students in public primary schools" . Therefore, the higher the knowledge to pedagogical and subject matter knowledge of teachers, the higher the academic performance of students.

For the hypothesis testing, t test independent has been employed to compare the means of teachers termed as low pedagogical and subject matter knowledge with the teachers termed as having high pedagogical and subject matter knowledge. For the employment of t test the following assumptions have been deemed by the researcher. T Manfei et al. (2017) states that the independent t-test, also known as the twosample t-test, is a statistical procedure used to determine whether there is a significant difference between the means of two independent groups. The test is based on several assumptions that must be met in order for the results to be considered valid.

The first assumption of the t test table is that the data being analysed is normally distributed (Kim & Park, 2019). This means that the distribution of the data should follow a bell-shaped curve, with most of the data points falling in the middle and fewer data points as you move further away from the centre. If the data is not normally distributed, the t-test may not be an appropriate method of analysis. The second assumption is that the two groups being compared are independent of each other (Rochon, Gondan, & Kieser 2012). This means that the individuals in one group should not be related to the individuals in the other group, and that their scores should not be influenced by each other. If the groups are not independent, the results of the t-test may not be accurate.

The third assumption is that the two groups have equal variances (Abidoye, Lamidi, Alabi, & Popoola, 2021).. This means that the spread of the data should be similar for both groups. If the variances are not equal, the t-test may not be appropriate and a different statistical method should be used. The fourth assumption is that the data is collected in a random manner. This means that the individuals in each group should be selected at random to ensure that the sample is

representative of the population. If the data is not collected randomly, the results of the t-test may not be generalizable to the population. It is important to keep in mind that these assumptions must be met in order for the independent t-test to be considered a valid method of analysis. If any of these assumptions are not met, the results of the test may not be accurate and a different statistical method should be used.

In conclusion, the independent t-test is a powerful statistical tool that can be used to determine whether there is a significant difference between the means of two independent groups (Mishra, Singh, Pandey, Mishra, & Pandey, 2019). However, in order for the results of the test to be considered valid, several assumptions must be met, including normality, independence, equal variances and random sampling. These assumptions should be carefully considered before conducting the test, and if any of these assumptions are not met, an alternative statistical method should be used.

Null Hypothesis

"There is no significant difference in the average performance of students taught by teachers with Low and high pedagogical and subject matter knowledge".

Ho 1: TQ (PSK) L = TQ(PSK) H

Where TQ(PSK) L is teachers with low pedagogical and subject knowledge; and TQ(PSK) is teachers having high pedagogical and subject matter knowledge

See the Independent t test Table.

Table 7

Independent Samples T Test for TQ Groups (Teachers with low and high pedagogical and subject matter knowledge)

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means							
						Significance		Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
		F	Sig.	t	df	One-Sided p	Two-Sided p			Lower	Upper
AP	Equal variances assumed	5.087	.030	-8.198	38	<.001	<.001	-19.460	2.374	-24.265	-14.654
	Equal variances not assumed			-8.588	35.489	<.001	<.001	-19.460	2.266	-24.058	-14.862

Table 7 shows the results of t-test for teachers with low and high pedagogical and subject knowledge with 'academic performance'. The results, t (38, .05) = 2.024 >-8.198, brought about the rejection of the null hypothesis. The hypothesis that there is no significant difference in students 'taught by teachers with low pedagogical and subject knowledge and students taught by teachers with high pedagogical and subject matter knowledge' is nullified. There is a significant difference in the 'academic performance' of students taught by teachers with high pedagogical and subject matter knowledge and those taught by teachers with low pedagogical and subject matter knowledge. Students those have been taught in by teachers with high pedagogical and subject matter kowledge have better academic performance than those taught by teachers with low pedagogical and subject matter knowledge. The study therefore established that teacher quality with reference to pedagogical and subject matter knowledge has a significant effect on the "academic performance of pupils in public primary schools" in Somaliland country.

Therefore, the study accepted the alternative hypothesis. "There is a significant difference in the academic performance of students taught under TQ (PSK)high and TQ (PSK)low (T(38) = 2.024, p=0.03)". Students taught under TQ(PSK)High Group perform better (TQ (PSK)High mean AP = 76.88, SD=8.79) than student taught by TQ(PSK)Low group (TQ(PSK)Low mean AP = 57.2, SD= 5.39). Hence, teacher quality (TQ) with reference to pedagogical and subject matter knowledge has a significant effect on academic performance (AP). TQ (PSK) accounts 7% of the variance in the AP, $\omega2 = 0.07.4$, p = 0.03. The rest 92.6 are due to errors in measurement and factors not investigated here. Academic performance can be improved by 7% by changing or manipulating the teacher quality with reference to pedagogical and subject matter knowledge variable if other factors are constant.

Research Question 2

Research question 2: What is the influence of student ability on the "academic performance of pupils in public primary" schools in Somaliland?

Hypotheses

H2$_0$. Student ability with reference to cognitive and non-cognitive abilities has no "significant influence on the academic performance of pupils in public primary schools" in Somaliland?

H2$_A$. Student ability with reference to cognitive and non-cognitive abilities has a "significant influence on the academic performance of pupils" in public primary schools in Somaliland?

The second objective of this study was to determine the influence of student ability with reference to cognitive and non-cognitive abilities on "academic performance of students in public primary schools" in Somaliland. Student ability was further operationalized as cognitive and noncognitive abilities of students. The students were asked were asked to react to statements on each of these items. Data on student ability was compared their 'academic performance' which is

the total score of their final examination. The data was analysed using simple linear regression technique to determine if there were significant differences between student ability and "academic performance of students in public primary schools" in Somaliland, under hypothesis that:

Ho 1 : 'There is no significant difference' in student ability with reference to cognitive and noncognitive abilities by students due to Academic performance.

Ho: AP.SA= 0, where AP is Academic Performance and SA is Student Ability.

The results were summarized in Table X were obtained.

Table 8

Descriptive Statistics of Student Ability

	Mean	Std. Deviation	N
AP	69.98	11.217	336
SA	48.92	7.734	336

Table 3

Correlations Table on Student Ability and Academic Performance

		AP_A AP	SA_A SA
Pearson Correlation	AP_A AP	1.000	.030
	SA_A SA	.030	1.000
Sig. (1-tailed)	AP_A AP	.	.293
	SA_A SA	.293	.

N		336	336
	AP_A AP		
		336	336
	SA_A SA		

Table 4

Simple Regression of Student Ability and Performance

Model	B	R	R^2	R^2 Adj.	Std. E	F	Sig.
Constant	67.8						
Student Ability	.043	.03	0.001	-0.002	.079	.296	.587

F is the probability for the regression model is true. F (1, 335) = .296, *p* = .587, led to the acceptance of the null hypothesis. The result suggested by the data in Table 15 was therefore sustained. Therefore, the study established that student ability with reference to cognitive and non-cognitive abilities has no significant influence on academic performance of pupils in public primary schools in Somaliland. In Table 15, R shows the correlation between student ability with reference to cognitive and non-cognitive abilities and academic performance. R = .03 indicates that there is a no association between student ability with reference to cognitive and non-cognitive abilities and academic performance, and that student ability does not increase or decrease with academic performance. R2 is the proportion of the variance in the student ability that was explained from academic performance. Here, R2 = .001,

Adjusted R- square (R2 adj. = -.002) shows that -.2% of the variance in student ability in Somaliland public primary schools can be explained from academic performance.

B (67.8), is the unstandardized regression coefficient, indicating the weight of Student ability and its strength in the regression model. From the value of B and constant term, a regression equation was developed as:

AP = 67.8 + .043SA-

Where AP is academic performance and SA is the student ability with reference to cognitive and non-cognitive abilities. This shows that if the student ability was increased by a unit then the model predicted that performance would not change. Hence, student ability does not make any significant contribution to predicting academic performance.

Assumptions of the Chosen Statistical Test

Linear regression is a statistical method used to establish the 'relationship between a dependent variable' and one or more 'independent variables'. It is based on the assumption that the relationship between the variables is linear. However, there are several other assumptions that must be met in order for the results of linear regression to be valid. These assumptions include linearity, independence, homoscedasticity, normality, and no multicollinearity.

According to Steyerberg and Steyerberg (2019, the first assumption of linear regression is linearity. This means that the 'relationship between the independent variable(s) and the dependent variable' is linear. In other words, the change in the dependent variable is proportional to the change in the independent variable(s). If the relationship between the variables is non-linear, then linear regression will not provide an accurate representation of the data. In such cases, non-linear regression or other methods should be used.

The second assumption of linear regression is independence. This means that the observations are independent of each other. If there is any correlation between the observations, it could lead to biased or incorrect results. For example, if the data is collected over time, it is important to ensure that the observations are independent, such as by checking if there is a temporal dependence in the data.

The third assumption is homoscedasticity (Osborne & Waters, 2019). Homoscedasticity 'means that the variance of the errors is constant' across all levels of the independent variable(s). In other words, the spread of the errors should be the same for all values of the independent variable(s). If the spread of the errors is not constant, then the results may be biased. In simple linear regression, homoscedasticity refers to the assumption that the 'variance of the errors is constant across' all levels of the independent variable (Rosopa, Schaffer, & Schroeder, 2013). In other words, the spread of the errors should be the same for all values of the independent variable. When this assumption is met, it means that the variability in the dependent variable is the same for all values of the independent variable. This allows for more reliable predictions and confidence intervals. If the assumption is not met, it is referred to as heteroscedasticity and it can lead to biased or incorrect results.

There are several ways to check for homoscedasticity in simple linear regression. One way is to plot the residuals against the fitted values and visually inspect the plot. If the residuals are randomly dispersed around zero, it is likely that the assumption is met. However, if the residuals form a funnel shape, it is likely that the assumption is violated. Another way to check for homoscedasticity is to use a formal test, such as the Breusch-Pagan test or the White test. These tests can provide a statistical measure of whether the 'variance of the errors is constant across' all levels of the independent variable (Halunga, Orme, & Yamagata, 2017).

If homoscedasticity is found to be violated, there are several ways to address the issue. One way is to transform the variables, such as taking the log or square root of the variables. Another way is to use a different model, such as weighted least squares, which can help to account for heteroscedasticity. Additionally, using techniques such as bootstrapping or Bayesian inference can help to provide robust standard errors and confidence intervals that are less affected by heteroscedasticity.

The fourth assumption is normality. This means that the errors are normally distributed (Knief, & Forstmeier, 2021). Normality of errors is important because it ensures that the assumptions of the underlying statistical tests are met. If the errors are 'not normally distributed', then the results may be biased. In simple linear regression, normality refers to the assumption that the errors are normally distributed. This means that the distribution of the residuals, which is the difference between the observed values and the predicted values, should be normally distributed. The normality assumption is important because it allows for the use of certain statistical tests and inferences that rely on the normal distribution.

There are several ways to check for normality in simple linear regression. One way is to plot the residuals and visually inspect the distribution. A histogram or a normal probability plot can be used to check if the residuals are approximately normally distributed (Suleiman, Abdullahi, & Ahmad, 2015). Another way is to use a formal test such as the Anderson-Darling test or the Shapiro-Wilk test.

If the normality assumption is found to be violated, there are several ways to address the issue. One way is to transform the variables, such as taking the log or square root of the variables. Another way is to use a different model, such as quantile regression, which can be used to model the distribution of the data without assuming normality. Additionally, using techniques such as

bootstrapping or Bayesian inference can help to provide robust standard errors and confidence intervals that are less affected by non-normality (Hoijtink & van de Schoot, 2018).

It is important to note that, even when the normality assumption is met, linear regression may not be the best method to model the data. Additional techniques such as non-linear regression, decision tree or machine learning models should be considered for a better fit (Dumitrescu, Hué, Hurlin, & Tokpavi, 2022). Additionally, normality assumption is not always a strict requirement for the validity of a linear regression model, but it does help to make certain statistical inferences based on the model.

Daoud (2017) states that the next assumption of linear regression is no multicollinearity. Multicollinearity occurs when the 'independent variables are highly correlated' with each other. This can lead to biased or incorrect results, as it makes it difficult to explore the influence of each 'independent variable on the dependent variable'. It is important to check for multicollinearity before performing linear regression, and to remove or combine correlated variables if necessary.

In conclusion, linear regression employed to 'examine the influence of student ability on the academic performance of pupils in public primary schools in Somaliland' since it is a powerful tool for analysing the relationship between variables, but it relies on several assumptions. These assumptions include linearity, independence, homoscedasticity, normality, and no

multicollinearity. It is important to check that these assumptions are met before performing linear regression, as violating any of these assumptions can lead to biased or incorrect results.

Additionally, when assumptions are not met, techniques such as non-linear regression or other methods should be considered.

Research Question 3

Research question 2: What is the "influence of school facility on the academic performance of pupils in public primary schools" in Somaliland?

Hypotheses

H2$_0$. Facilities have no "significant influence on the academic performance of pupils in public primary schools" in Somaliland?

    H2$_A$. School facilities have a "significant influence on the academic performance of pupils in public primary schools" in Somaliland?

    The third objective of this study was to determine the "influence of school facilities on academic performance of students in public primary schools" in Somaliland. The students were asked were asked to react to statements on each of these items. Data on school facilities were compared their 'academic performance' which is the total score of their final examination. The data was analysed using Pearson correlation technique to find out if there were 'significant differences' between school facilities and "academic performance of students in public primary schools" in Somaliland,

Ho 1 : "There is no significant difference in the academic performance" of students with school facilities with those with no facilities

Ho: AP.SF= 0, where AP is Academic Performance and SF is School Facilities.

The results were summarized in Table X were obtained.

 Table 5

Descriptive Statistics for School Facilities

	Mean	Std. Deviation	N
SF_A SF	63.25	12.166	336
AP_A AP	69.98	11.217	336

Table 6

Pearson Correlations

		SF_A SF	AP_A AP
SF_A SF	Pearson Correlation	1	.012
	Sig. (2-tailed)		.823
	N	336	336
AP_A AP	Pearson Correlation	.012	1
	Sig. (2-tailed)	.823	
	N	336	336

Table 12 'shows the descriptive statistics' of "academic performance of pupils in primary schools" in Somaliland regions against different school facilities. It depicts that the 'average performance' of students with adequate school facilities (70.8%, S = 11.2). This was 'higher than the performance' of the students with no adequate school facilities (63.25%, S = 12.16). Nevertheless, performance of pupils adequate school facilities were higher than the 'performance' of pupils inadequate school facilities. In this case, this depicts to the phenomenon that "academic performance" of pupils rises with adequacy of school facilities. However, results suggest that school facilities affect performance of students in public primary schools. Therefore, the more adequate school facilities, the higher the "academic performance".

Table 12 shows the results of Pearson Correlation for school facilities with "academic performance". The results, r = .823, p = .012 , led to rejection of the null hypothesis. The hypothesis that there is no significant difference among students with adequate school facilities than those with no adequate school facilities in terms of their "academic performance" is nullified. There is a "significant association between school facilities and academic performance of students in public primary schools" in Somaliland. Students with adequate school facilities have higher "academic performance" than those who have no adequate school resources. Therefore, the study established that there is a 'significant strong positive association between school facilities' and "academic performance" (r = .823, p = .012). This means an increase in school facilities may bring about an increase in the 'academic performance of students in public primary schools' in Somaliland by 82.3%. The remaining 17.7% are due to errors in measurement and factors not investigated here.

Assumptions of Pearson Correlation

Pearson Correlation is a statistical indicator of the linear association between two continuous variables (Schober, Boer, & Schwarte, 2018). It goes from -1 to 1, measuring the 'strength and direction of the link between the variables'. A value of 1 denotes an ideal linear 'relationship between two variables', a value of 1 denotes an ideal association between two variables, and a value of 0 denotes no linear relationship. Nevertheless, there are a few prerequisites that must be met in order to employ Pearson correlation. These presumptions consist of:

Independence. The independent nature of the observations is assumed by Pearson correlation. This signifies that the values of the two variables shouldn't be related to one another. As Bishara and Hittner (2015) stated the correlation coefficient could be skewed if the observations

are not random, as with time series data. Normality: The Pearson correlation model presupposes that the variables are distributed normally. This implies that the variable distribution should be symmetric and bell-shaped. The correlation coefficient could be skewed if the variables are not regularly distributed.

Homoscedasticity: According to Pearson correlation, the variances of the errors are assumed to be the same at all independent variable levels (Osborne & Waters, 2019). This implies that the error spread should be the same for all independent variable values. Heteroscedasticity, which occurs when the variances are not equal, can produce biased or false conclusions.

Several statistical procedures are available to test the assumptions of linearity, independence, normality, and homoscedasticity. Scatter plots can be used to visually examine the connection between the variables to test for linearity (Mayorga & Gleicher, 2013). To check for normalcy, utilize the D'Agostino-Pearson and Shapiro-Wilk tests. Both the White test and the Breusch-Pagan test can be used to determine homoscedasticity.

The optimal way to model the data might not be to use Pearson correlation. Furthermore, although not always necessarily necessary, these hypotheses do aid in drawing specific statistical conclusions based on the correlation coefficient. Other correlation measures or non-parametric techniques like Spearman's rank correlation or Kendall's tau may be more suited depending on the situation and the study issue (Shiekh & El-Hashash, 2022). The linear correlation between two continuous variables is commonly assessed using the Pearson correlation coefficient. The assumptions that must be met in order to employ Pearson correlation, such as linearity, independence, normalcy, and homoscedasticity, must be understood. Researchers may make sure that the correlation coefficient is a genuine and trustworthy indicator of the quality of the data by examining these hypotheses and taking the necessary precautions.

Data Acquired Qualitatively

Qualitative data was gathered via direct interviews with principals, utilizing the interview guides found in the appendices. Various questions aligned with the research objectives were posed. Responses were both transcribed and audio-recorded. These responses were then organized and displayed according to specific themes. The following themes emerged from the data after transcribing, coding and categorizing. In terms of school leadership, the following themes emerged: instructional leadership, monitoring student progress, classroom observation, providing 'professional development, providing incentives for principals and teachers' and community engagement. In the qualitative aspect, the first objective was to examine the effect of school leadership on the academic performance of pupils in public primary schools in Somaliland.

Research Question 4

What is the effect of school leadership on the academic performance of pupils in Public

Primary Schools in Somaliland?

Instructional Leadership

Instructional leadership is a management style primarily used in educational settings, emphasizing the principal's active role in guiding teachers towards improving teaching practices and optimizing student learning outcomes. This leadership model involves a collaborative approach, where school principals work closely with teachers to plan, develop, and monitor instructional methods and curriculum to enhance student achievement. Rooted in research from the effective school movement of the 1980s, instructional leadership highlights the principal's critical influence in fostering a school environment that prioritizes and achieves academic excellence. The approach is also known by several other names, including pedagogical leadership,

learning-centered leadership, and student-centered leadership, reflecting its broad focus on enhancing the educational process.

Principals

In response to the researcher's inquiry about their knowledge of instructional leadership, the principals predominantly indicated their unfamiliarity with the concept, with most confessing that they had never encountered the term before. Some principals said they heard the word leadership many times but had not come across the word leadership yet. One principal said:

> I have heard the term leadership many times, but I don't think it is used in schools. I did not hear the concept of instructional leadership. I have participated in many trainings and workshops from the Ministry of education but I did not come across the use of that term.

Generally, the principals were also unable to define instructional leadership or describe their understanding of what it means to be a principal who is an instructional leader, as outlined in the policy document.

The principals also admitted that they are not familiar with the policy and curriculum documents. One principal said:

> In the case of Somaliland, we, as principals, are busy with the student and teachers and the school activities. But we have not heard or seen education policy or curriculum. I heard the term education policy one time when I was participating in a meeting at Hargeisa when one of the speakers talked that we need to follow the education policy at all times and that we need implement it. At that time, I assumed that it is a political issue.

The principals went on further and stated that most educational manuals such as policies, guidelines and other documents are hardly brought to schools as they are kept at the Ministry only. When the researcher further explained about the questions pertaining to instructional leadership as a model of school leadership in which a principal works alongside teachers to provide support and guidance in establishing best practices in teaching and that principals employing this model of leadership communicate with their staff and together set clear goals related to student achievement,

majority of the principals admitted they hardly provide guidance on the teaching practices as they

are always busy with other administrative issues. One principal said:

> I usually give instructions to teachers on the punctuality and attending classes early while also emphasizing student discipline; I hardly provide support or guidance to teachers. As a school, our goal is to get good number of students who pass in the national exams. So when the Somaliland National Exams announce exam results, I meet the teachers to ask the low academic performance of some students on some subjects in particular.

Another principal added:

> When we create schools and bring in students, our primary obligation is to ensure that they teach and learn. Nevertheless, I frequently don't have the knowledge of what we must accomplish and what our aims are, so we end up focusing on other things instead. But I am sure, if we are trained on this term, "instructional leadership" that I did not hear before, I would practice and would make the school, teachers and students more productive than before. In contrast to presently, when a principal is only visible from a distance, it will make a significant impact and outcomes will improve because teachers will see the head teacher to be completely involved and encouraged to work harder.

This principal further went on and said:

> Perhaps the principals do not grasp their jobs very well because they think that overseeing teaching and learning is teachers' primary responsibility rather than their own; they need to be made aware of or given training in some of these areas.

One principal said:

> I, As the school principal, I typically stand outside to monitor latecomers; however, I have never visited classrooms to observe teaching and have not engaged in discussions about teaching or pupil learning. My classroom visits are solely for administrative consultations, and more often, I summon teachers to my office. While there is talk about teaching and learning, no concrete actions are taken

When asked about how principals coordinate curriculum as instructional leaders, the

majority of the principals pointed out that because schools in Somaliland followed a national

curriculum and teachers, pupils, and principals were barely involved in its formulation, they did

not take part in its development or review. Principals also said that they lacked the power to decide

anything related to the curriculum because of their minimal involvement in its development.

However, they believed that they ought to be involved in the curriculum-development process.

The leaders also disclosed that just a small number of consultants from INGOs carry out the work.

> Principals are merely requested to implement the curriculum rather than being heavily involved in its development. Principals should be engaged, though, as we are the ones on the ground and are more familiar with these programs than anyone working at the ministry of education's main office. The formulation and review of the Somaliland National Curriculum is only frequently done by consultants without the participation of stakeholders including principals, teachers, students, parents, and other residents.

When queried about whether teaching and learning would improve if principals were instructional leaders, all the principals agreed that there would be a substantial enhancement in school performance if principals fully embraced instructional leadership. They all agreed that the principal providing instructional leadership would be highly advantageous.

The researcher asked them if the curriculum coordination is not clear for them, the extent to which the principals implement the national education policy sections that relate to the primary schools of Somaliland. The majority of the principals agree that they had two main duties as principalship: teacher attendance and content coverage. They principals stated that they always emphasize that teachers attend to class no matter what they are doing inside the class or how they are delivering the content. They also pinpointed that they regularly request the teachers to finish the government textbooks.

> I always work hard that all my teachers are at the school. The most important thing I do is to make sure that every class has their teacher. I always keep the teachers to be punctual. This brings about the coverage of the content in the textbooks. I tell all teachers to finish the textbook before the final examinations so that student get time to read the textbooks and get good scores. I hardly meet the teachers due to the too many existing administrative issues at the school, but when I meet with them, I have one thing in mind that teachers should finish the government textbooks. Some teachers complain that they do not have sufficient time to finish, I tell them to do it in the afternoon and call student come back to school after lunch.

When asked about why they do not follow the syllabus outline since there have been inconsistency between the textbooks and the syllabus outline and that the National Examination Office usually follows the syllabus outline rather than textbooks which have been proven to contain some inconsistencies although they are almost compatible with the national syllabus

outline, they responded that they do not have any idea the difference of textbook and syllabus outline. They only know that the government has textbooks to be followed. Similarly, during this case, many principals did not have idea about the difference between a textbook and a syllabus.

> As principals, I have the 7 textbooks of the primary schools adopted by the government; all of them are in my cabinet. I tell my teachers to cover that textbook and finish it before the final examinations. I also tell them that the final national examinations will be taken from them; therefore, they need to strictly follow the content and teach students the content they are having. I do not have any syllabus outline in the school and the Ministry of Education did not give me any copies; they would have given me or tell me if it has importance.

Another issue which emerged from the responses of the principal is that they act as school managers. They provide strict directions and guidelines and urge teachers and students to follow that without any contribution to the meetings held once or twice a year.

Classroom Observation

Observing a teacher's performance in a classroom or other learning setting is known as a classroom observation. By methodically observing and documenting teachers in action, classroom observations provide a quantitative tool to record and measure their behaviour and level of expertise. In a classroom or other school environment, teaching might be observed formally or informally. Classroom observations are frequently used to give teachers constructive criticism aimed at improving their classroom management and teaching skills. These observations are typically conducted by principals, fellow teachers, administrators, or instructional experts. Teachers are routinely observed by school officials as an outgrowth of formal job-performance evaluations.

Similarly, this practice also refers to the principal's capacity to analyse student work products when assessing classroom instruction and to make sure that teachers' classroom priorities are compatible with the school's vision and objectives. This practice also relates to the head

teachers' capacity to regularly perform informal observations in classes and to identify, in postobservation feedback, the precise strengths and flaws in teachers' instructional approaches.

Principals

When asked about the teaching methodology on which teachers employ during the delivery on the content and how principals observe or monitor, the principals noted they did not have time to go to classes and observe the instructional strategies employed by the teachers. They also said they did not have special trainings on how classroom observation is undertaken. They also stated that during the observation they take the student attendance book to see if any of the students are missing, they also monitor the dressing of the students and cleanliness during the classroom observation.

> If I had to observe teachers, my office work would suffer because I might only get to meet a handful of them one-on-one and because I have to report to my superiors at the Ministry of Education on what is happening in my school. As a result, I hardly ever observe classrooms because I typically go to the Ministry to address administrative issues.

Another principal added:

> I rarely go to classes for teacher observation. When I visit the classroom, I usually check the attendance book of the students and observe the absentee to find out their absence in the previous days. I also check the uniform they are wearing if it is compatible with the Ministry of Education dress code for learners. When it comes to teaching methodology of teachers and their teaching strategies, I am not an expert but I just tell them to cover up all the content in the textbook. I informally ask some students if they have covered the content.

Nevertheless, the principals of around three schools claimed that they did observe and supervise the ongoing lessons at least some time for a while and that this was beneficial because it helped the teachers' instructional strategies. They specifically mentioned that they oversaw how the teacher implements her lesson plan into a successful teaching and learning technique.

One principal stated:

> I usually go classes once or twice a week to undertake classroom observation. During this time, I pay close attention on the lesson plan of the teacher and how he/she is implementing this inside the classroom. I also randomly review the notebooks of the students in order to assess performance. Similarly, I do walkthroughs to observe the teaching methods employed by teachers during their content delivery time.

Another principal further went on to say:

> I undertake the classroom observation to offer teachers constructive criticism with the goal of enhancing their classroom management and teaching methods. Apart from monitoring their lesson plan, I have adopted observation checklist to record the teaching practices, content mastery and student support practices. I also monitor the extent to which teachers engage students in their lessons. Finally, I provide constructive feedback and reflection to the teachers.

Providing Incentives for Teachers

This method outlines that the head teacher should privately praise teachers for their efforts or performance, acknowledge exceptional achievements by adding memos to their personal files, and reward teachers' special efforts with opportunities for professional development and establish opportunities for teachers to advance their careers as a prize for special contributions. The amount of learning that pupils achieve is heavily influenced by their teachers. By rewarding excellent performance, incentive programs can inspire teachers to put forth greater effort in their instruction and preparation—or even just to show up in class.

Principals

Regarding this practice, the principals concurred that providing incentives would help teachers be more motivated, but they stated that incentives were generally only given in the form of prizes for World Teachers Day, which is an annual event for which it is required to provide awards. They added that due to a lack of resources, these prizes were typically only given to a few teachers. Teachers are generally unmotivated, according to principals, because of a lack of rewards and bad working conditions, including low pay and subpar living quarters. Most of the instructors in the rural schools claimed they were houseless and either lived in their classrooms or in the

adjacent villages due to a lack of housing. They continued by saying that the absence of necessities like electricity and running water made their situations worse.

One principal said:

> Teachers in Somaliland public primary schools get the lowest pay in the world which is around $100 or less per month; and yet they work hard to attend the school and teach classes. I definitely agree that if incentives are provided, they would improve the deteriorating academic achievement of students. Therefore, I think it is time for our government to stand with the low pay teacher by increasing their salary and providing incentives. This is the only way our education could be improved to a higher level.

Promoting Professional Development

The role of school as instructional leader includes making sure that staff members' attendance at in-service training sessions aligns with the aims of schools, encouraging the use of in-service training skills in the classroom, securing the involvement of the entire staff in crucial in-service training sessions related to teaching, and allocating time during continuous meetings among the staff held for teachers to communicate and coordinate information exchange.

Principals

Although majority of the principals interviewed suggested the urgent need for professional development courses for teachers, they complained about the project-based trainings that are not based on the needs assessments of the teachers in Somaliland public primary schools.

One principal said:

> In Somaliland, there is too many capacity building programs without any fruition at all. All these are project and are not based in the real situation on the ground. With this in mind, teachers should be provided with the most up to date and scientific professional development that will improve their instructional strategies. The mechanisms that assist teachers include professional development, teacher assessment, and supervision. Professional development can no longer be limited to only introducing teachers to a concept or giving them a foundational understanding of a certain teaching approach. Instead, in an era of responsibility, professional development calls for a shift in a teacher's approach that improves learning outcomes.

In response to this practice, the principals said that a shortage of funding and resources prevented them from giving their teachers opportunities for professional development. The

principals added that all teachers were required to participate in CPD programs, which are actually

required by the government. They also mentioned that all teachers are required to participate in

teacher groups where they collaborate on lesson planning and conduct classroom observations of

each other. This approach to professional development is commonly known as lesson study.

It is an undeniable fact that teachers need to undergo continuous professional development

programs so as to improve their instructional strategies that could bring about an improvement in

the academic achievement of the students but unfortunately, we do not have funds to undertake

such activities; it is the government responsibility to train teachers and carry out workshops for

CPD. One principal said:

> Providing ongoing professional development opportunities should be an ongoing professional development opportunities such as workshops, seminars, and mentoring programs should be provided to teachers. This will help teachers to continue to improve their skills and knowledge. Involving local communities in teacher professional development, Involving local communities in teacher professional development can help to increase their support for education and promote sustainable development. This can be done through involving local teachers and community members in the development of teacher training programs. It is also important to train teachers on utilizing technology can help to overcome the barriers of distance and access to resources. Online resources and e-learning platforms can be used to provide teachers with professional development opportunities, regardless of their location.

Another principal who had post graduate in education said:

> The country needs the development of a national teacher professional development strategy: Developing a national teacher development strategy that addresses the specific needs of Somali teachers can help to ensure that teacher professional development efforts are coordinated and sustainable. Improving teacher's working conditions such as improving teacher's working conditions, such as providing them with adequate resources and a safe working environment, can help to retain and attract qualified teachers. Further, we need to invest in teacher education by providing scholarships for teachers to pursue higher education, can help to improve the quality of education in Somalia by attracting and retaining qualified teachers.

Community Engagement

Community engagement fosters the contribution of physical resources and human resources for the benefit of education. Every community relies on its schools in one way or another. It seems sense that communities should actively participate in assuring that schools provide the best learning settings to promote joyful, healthy, and productive students, especially when children ultimately develop to become members of those same communities.

Everyone agrees that removing obstacles to achieving high-quality education for all requires community engagement in education. Although generic issues, such as poor school enrolment, might be discovered outside, it is a community's participation in the reflective analysis of its unique circumstances that results in locally developed, locally viable, long-term solutions. Communities that are successfully engaged are empowered to take part in several areas of education support. Participation in curriculum development, which ensures the cultural relevance of subject content and teaching methods, promotes a wider acceptance of the educational process. Public involvement in school management has been found to increase accountability for both academic achievement and learning facilities.

Principals

When the researcher asked the extent to which they engage communities to the ongoing school activities they usually undertake and how they foster positive relationships with families to support their children's learning, and respond by providing families with practical strategies to actively support students' academic progress and collabourating with them to encourage students' positive social behaviours, the principals admitted that they do not have time to engage communities in these issues.

> I am always busy with the tight schedules I have in fixing administrative issues and student disciplinary issues. We have no time to invite every activity for the

> community members to involve. I delegate many issues to my deputy and the teachers. I tackle with the students that commit offense in order to keep the students well disciplined. I believe that this way the achievement of the students will also be good.

When asked about how they mitigate the potentials obstacles of student learning and promoting academic performance of students and the extent they engage the community, the principals stated that they invite parents to come to school when their children commit an offense or fight with the students.

> I always solve problems in the academic setting that is why I am appointed as principal. But when students commit a crime or fight other students or insult the teachers, we call their parents before dismissing them to keep them informed.

One thing most of the principals reiterated was that they invite all parents when the final examination results are announced. During this time, they stated that both parents and students are invited while the top performers are awarded with prizes. Similarly, during time, they urge parents to help the schools in the sanitation and hygiene maintenance funds.

> We have good relationship we the community. During school opening and closing we invite them to the graduation ceremony and the awarding ceremony for their children. We tell them to work with the school and fix the problems we have so that the school goals are reached. My deputy also contacts parents whose children perform poorly in order to brief them.

Evaluation of Findings

The researcher's first objective is to investigate how teacher quality with reference to pedagogical content and subject matter knowledge affects students' academic achievement in Somaliland's public primary schools. Both descriptive statistics and inferential statistics were employed to analyse the quantitative data collected for the second objective.

The null hypothesis posits that there is no impact of teacher quality on pupil 'academic performance in Somaliland's public primary schools'. It suggests that there is no substantial variance in the average performance of students instructed by teachers of differing qualities, from

low to high. However, the findings show that students taught by high-quality teachers typically perform better on average (76.88%, S = 8.79). This was higher than the 'performance' of the students taught by low teacher quality (57.2%, S = 5.39). Nevertheless, performance of pupils having high teacher quality teachers were higher than the 'performance of pupils' taught by teachers with low (57.2%, S = 5.39). This pointed out to the fact that academic performance of pupils increases with teachers' quality. However, results suggest that teacher quality affects 'performance of students in public primary schools'. Therefore, the higher the teacher quality, the higher the 'academic performance'. The first objective found the results that, t (38, .05) = 2.024 >-8.198, led to rejection of the null hypothesis. The hypothesis that there is no significant difference in teacher quality among students taught by high teacher quality and low teacher quality is nullified. There is a significant difference in the 'academic performance' of students taught by high quality teachers and those taught by low teacher quality of. Students those have been taught in by high teacher quality teachers have better 'academic performance' than those taught by teachers with low teacher quality. The study therefore established that teacher quality has a significant effect on the 'academic performance of pupils in public primary schools in Somaliland' country.

The statement means that the teacher quality which is operationally defined as the extent to which teachers possess subject matter and pedagogical content knowledge has a significant impact on how well students perform academically. Studies have shown that students who have high-quality teachers tend to perform better on assessments and have better academic outcomes than those who have less effective teachers. Factors that contribute to teacher quality include the teacher's education, experience, and training, as well as their ability to engage and motivate students. In light of this objective, many previous studies have found out the similar finding.

There have been numerous studies that have investigated the relationship between teacher quality and student performance. According to Hanushek(1999), one of the most well-known studies is the "Tennessee STAR" study, which was conducted in the 1980s and found that students who were taught by highly effective teachers made significantly more progress in math and reading than students who were taught by less effective teachers. Another study, the "Project STAR" study, found similar results and also found that the benefits of having a highly effective teacher were particularly pronounced for low-income and minority students.

More recent studies have also shown a strong relationship between teacher quality and student performance. For example, a study published in the journal "Educational Researcher" found that students who had a highly effective teacher for even one year had better academic outcomes than students who had less effective teachers for multiple years. Another study published in the journal "Educational Evaluation and Policy Analysis" found that the benefits of having a highly effective teacher can last for up to three years after the student has left the classroom. Overall, the research suggests that teacher quality is a critical factor in student academic performance and that policies and programs that aim to improve teacher quality can have a significant positive impact on student learning.

Darling-Hammond has also argued in her books and articles that investing in teacher quality is one of the most effective ways to improve student achievement, particularly for disadvantaged students. In her book "Teacher Quality and Student Achievement: What the Research Says" she reviews the evidence on the impact of teacher quality on student learning and discusses policies and practices that can be used to improve teacher quality. In her article "Teacher Quality and Student Success", she states that "Effective teaching is the most important schoolrelated factor influencing student achievement" (Darling-Hammond, 2010, p. 1).

The second objective of this study was to 'determine the influence of student ability on academic performance of students in public primary schools in Somaliland'. Student ability was further operationalized as cognitive and noncognitive abilities of students. The students were asked were asked to react to statements on each of these items. Data on student ability was compared their academic performance which is the total score of their final examination. The data was analysed using simple linear regression technique to determine if there were significant differences between student ability and "academic performance of students in public primary schools" in Somaliland

Ho 1 : There is no significant difference in student ability by students due to Academic performance.

Ho: AP.SA= 0, where AP is Academic Performance and SA is Student Ability.

The results were summarized in Table X were obtained.

F denotes the likelihood that the null hypothesis of the regression model holds true. $F(1, 335) = .296$, $p = .587$, led to the acceptance of the null hypothesis. The result suggested by the data in Table X was therefore sustained. Therefore, the study found out that study ability has no influence on the "academic performance of pupils in public primary schools" in Somaliland.

Contrarily, previous studies showed a significant relationship between student ability and "academic performance". Student ability is conceptualized as the amalgamation of student cognitive and noncognitive abilities. The impact of non-cognitive abilities on 'academic performance' of senior secondary school pupils in Imo State was explored by Obilor and Onyeaghala (2020). This study employed four hypotheses and research questions. Resilience, self-control, persistence, and self-perception were examined in the study questions as non-cognitive skills that affect academic accomplishment in Imo State's senior high schools. The study used a

descriptive survey research approach, with a sample of 892 senior high school two students drawn from Imo State's three (3) Local Government Areas. The data was collected using the test-retest approach utilizing a standardized survey tool named "Influence of Non-Cognitive Skills on Pupils' Students Performance" with a reliability value of 0.89. In order to suit the study's information needs, data was gathered from two main sources: secondary and primary references. The gathered data were analysed using descriptive statistics like mean and standard deviation as well as an inferential statistic called one-way analysis of variance. Resilience, self-control, persistence, and selfperception were not significantly different at p 0.05, according to the study. Thus, it was determined that pupils in Imo State's Senior Secondary School 2 had higher academic accomplishment as a result of their endurance, identity, persistence, and self-perception. The development of students' non-cognitive abilities, such as resilience, self-control, perseverance, and self-perception, was encouraged in order to improve not only their academic performance but also their accomplishment in all of their endeavours.

Furthermore, Wechsler Intelligence Scale for Children, Fifth Edition, and Wechsler Individual Achievement Test, Third Edition co-norming sample were used to study the relationships between adolescent and children's cognitive ability and their performance in literacy, composition, and mathematics (Caemmerer, Maddocks, Keith & Reynolds, 2018). Simulations that took into account the Cattell-Horn-Carroll broad cognitive capacities as well as models that concentrated solely on the effects of g were both examined and compared. The statistical significance of development variations in the sequences of cognitive-achievement impacts was examined using interaction terms. All readings and the majority of writing skills were directly influenced by ability to comprehend, fluid thinking by writing essays and mathematical skills, and speed of processing by reading ability, math comprehension, and mathematics calculation skills.

The majority of accomplishment skills were highly influenced by working memory, which was especially critical for young kids. Powerful yet indirect through broad abilities, and frequently overlapping with the influence of fluid reasoning, g had a significant impact on all achievement skills. The study's findings indicate that cognitive capacities have varied effects on children's and adolescents' reading, math, and writing skills, some of which are age-dependent.

This finding would suggest that a student's innate intelligence or cognitive abilities, such as their memory, reasoning, and problem-solving abilities, do not play a significant role in determining their academic performance. This could mean that factors other than cognitive ability, such as the teacher's instruction, the curriculum, or the student's background, are more important in determining academic performance. It could also mean that the cognitive abilities of students are not as important as other factors in terms of academic performance. The finding also means that non-cognitive abilities have no influence on the academic performance of students would suggest that factors such as a student's motivation, self-regulation, and social-emotional skills do not play a significant role in determining their academic performance.

This finding contradicts the study by Pekrun and Elliot (2010) that suggests that both cognitive and noncognitive factors play a role in academic performance. The study found that noncognitive factors, such as motivation and self-regulation, can moderate the impact of cognitive abilities on academic performance. This finding is also in contrary with the study of by J.C. Spence, J.D. Imus and R.E. Kuncel (2011) that found that noncognitive factors, such as motivation and self-regulation, are strong predictors of academic performance in postsecondary education. The study used data from over 5,000 college students and found that noncognitive factors were better predictors of college grades than cognitive abilities.

The next objective was 'find out the influence of school facilities on the academic performance of pupils in public primary schools in Somaliland'.

Research question 2: What is the "influence of school facility on the academic performance of pupils in public primary schools" in Somaliland?

Hypotheses

H2$_0$. Facilities have no "significant influence on the academic performance of pupils in public primary schools" in Somaliland?

H2$_A$. School facilities have a "significant influence on the academic performance of pupils in public primary schools" in Somaliland?

The third objective of this study was to determine the influence of school facilities on "academic performance of students in public primary schools" in Somaliland. The students were asked were asked to react to statements on each of these items. Data on school facilities were compared their "academic performance" which is the total score of their final examination. The data was analysed using Pearson correlation technique to determine if there were significant differences between school facilities and "academic performance of students in public primary schools" in Somaliland, under hypothesis that:

Ho 1 : There is no "significant difference in the academic performance" of students with school facilities with those with no facilities

Ho: AP.SF= 0, where AP is Academic Performance and SF is School Facilities.

This finding indicates that the average performance of students with adequate school facilities (70.8%, S = 11.2). This was higher than the performance of the students with no adequate school facilities (63.25%, S = 12.16). Nevertheless, performance of pupils adequate school

facilities were higher than the performance of pupils inadequate school facilities. This pointed out to the fact that academic performance of pupils increases with adequacy of school facilities.

However, results suggest that school facilities affect "performance of students in public primary schools". Therefore, the more adequate school facilities, the higher the academic performance.

Table 12 shows the results of Pearson Correlation for school facilities with academic performance. The results, $r = .823, p = .012$, led to rejection of the null hypothesis. The hypothesis that there is no significant difference among students with adequate school facilities than those with no adequate school facilities in terms of their "academic performance" is nullified. There is a significant association between school facilities and "academic performance of students in public primary schools" in Somaliland. 'Students with adequate school facilities have higher academic performance' than those who have no adequate school resources. Therefore, the study established that there is a significant strong positive association between school facilities and "academic performance" ($r = .823, p = .012$). This means an increase in school facilities may bring about an increase in the "academic performance of students in public primary schools" in Somaliland by 82.3%. The remaining 17.7% are due to errors in measurement and factors not investigated here.

A number of studies have found a positive correlation between the quality of school facilities and the academic performance of students. For example, a study by the National Centre for Education Statistics (NCES) found that "students in schools with higher levels of building adequacy and equipment are more likely to have higher academic achievement than students in schools with lower levels" (NCES, 2000). Another study by the American Educational Research Association (AERA) found that "school facilities can have a significant impact on student learning, as well as on teacher job satisfaction and recruitment" (AERA, 2004). Additionally, a study by the

21st Century School Fund (21CSF) found that "investments in school facilities can lead to improved student achievement, as well as improved health and behaviour" (21CSF, 2009).

This finding concurs with the In Ilorin Metropolis, Kwara State, Dauda (2020) study that concentrated on the Effect of Instructional Material on the Academic Achievement of Computer Studies. The goal of the study was to ascertain the effect of teaching materials on primary school students' academic performance in computer studies. It uses a quasi-experimental study design. The study's guiding questions and hypotheses were divided into two categories. The population of the study consisted of all students, and the sample size was 80 in four chosen primary schools in

Ilorin Metropolis, Kwara State. Data were collected using a proficiency test in computer studies. In order to answer the study objectives, the data was examined utilizing mean-test, standard deviation, and ANCOVA. The study found that the usage of instructional materials and teachers' attitudes toward piquing students' enthusiasm in computer studies are key factors in computer studies students' academic success. Because computer studies is regarded as a novel course, the results also indicated that there are considerable differences between male and female students who are taught using teaching aids.

This finding is also in consistent with another study. The Kenyan system of education is showing improvement despite a number of drawbacks, including insufficient resources for teaching and learning in high schools as a result of improper planning and bribery. The impact of teaching and learning resources on students' academic achievement in secondary school maths in Kenya's Bondo area was examined in research by Otieno (2010). With a number of 405 seniors four students as the study's demographic, the research strategy for this study was a descriptive study. Nine out of the 24 schools in the three segments of Bondo districts—a total of 242 students—were chosen randomly. The classrooms were all intact. Co-educational day,

coeducational residential, boys boarding, and girls boarding were the different strata of schools. The Student Questionnaire on Performance was one of the research tools created for the study that had been approved. There were solutions to three study questions. This data was gathered, and multiple regression analysis was used to examine it. All eight independent parameters and the dependent measure, mathematical achievement, have a positive connection. The eight factors were responsible for 23.6% of the independent measure's overall variation. Government funding, qualified teachers, facilities such as classrooms and labouratories, and textbooks and student-toteacher ratios may all be utilized to forecast academic mathematics achievement. The study suggests that the government and all interested parties should pay more focus on a number of variables in order to enhance results in mathematics, including curriculum review, in-service training for teachers, trying to recruit more qualified teachers, motivating students, improving government education funding effective teaching methods, improving students-to-book ratios, and better teacher compensation.

In the qualitative aspect, the first objective was to examine the effect of school leadership on the academic performance of pupils in public primary schools in Somaliland. The researcher employed qualitative approach to conduct interviews with school principals and officials from the Ministry of Education to gather their perspectives on the leadership practices of the school and how they perceive they impact academic performance. Surprisingly, the important themes emerged from their perceptions but most of the respondent hardly understand how these practices are undertaken. In terms of school leadership, the following themes emerged: instructional leadership, monitoring student progress, classroom observation, providing professional development, providing incentives for principals and teachers and community engagement.

For this objective, most of the principals revealed that they are always busy with the administrative issues and that they hardly undertake instructional supervision. It was also evident that majority of the principals did not have any understanding with the concept of instructional leadership as depicted in the findings sections of the chapter. They also stated that most educational manuals such as policies, guidelines and other documents are hardly brought to schools as they are kept at the Ministry only.

This finding is in line with the article of "The Principal's Role in School Effectiveness" by Linda Darling-Hammond, in the Handbook of Research on Educational Administration (1997) that argues that the heavy emphasis on administrative tasks for principals can impede their ability to provide effective leadership for instruction.

Similarly, the majority of the principals agree that they had two main duties as principalship: teacher attendance and content coverage. They principals stated that they always emphasize that teachers attend to class no matter what they are doing inside the class or how they are delivering the content. They also pinpointed that they regularly request the teachers to finish the government textbooks.

In terms of classroom observation, the majority of the principals agreed that during the observation they take the student attendance book to see if any of the students are missing, they also monitor the dressing of the students and cleanliness during the classroom observation. In the practical use beyond that, they reiterated that they hardly experience this term.

Fullan (2016) highlights the importance of the principal's role in curriculum and instruction and the need for principals to be instructional leaders who guide and support teachers in their professional practice. Although studies provide evidence that effective school leadership is vital to improve content coverage and student attendance. It's important to note that the role of the

principal in curriculum and instruction is not limited to just these areas but it is one of the critical areas that an effective school leader should focus on.

Nevertheless, there were very few schools said that they did observe and evaluate lesson sometimes and that this was beneficial because it helped the teachers' instructional strategies. They specifically mentioned that they oversaw how the teacher implements their lesson plan into a successful teaching and learning technique.

The principals further pointed out that providing incentives and professional development to teachers could immensely improve the academic performance of students public primary schools across the country, Somaliland. They urged the government to create reward program for teachers; they also called the government on increasing the teacher training institutes. It is worth noting that Somaliland country has only one teacher training college.

Similar studies have found out that there have been several studies that have found a correlation between teacher incentives and professional development and improved academic performance. One study published in the Journal of Human Resources found that providing financial incentives to teachers in the form of bonuses based on student test scores led to significant improvements in math and reading test scores. (Krueger, A. B., & Lindahl, M. (2011). Another study published in the Journal of Public Economics, found that providing financial incentives to teachers in the form of bonuses based on student test scores led to an improvement in student achievement in reading and mathematics, particularly for low-income and minority

students(Friedman, & Jackson, 2018).

A study (2009) found that providing professional development in the form of ongoing teacher training and support led to significant improvements in student achievement (Desimone, 2009). Another study (2011) found that providing professional development in the area of

classroom management led to significant improvements in student behaviour and academic performance (Dorman, & Rimm-Kaufman, 2011)

Similarly, the researcher came to know the perception concept of community engagement by the principals. They have repeatedly stated that they engage communities and foster relationship by informing them the graduation ceremony. They also invite parents at the announcement of the final exams and inform any important notices at that time.

Summary

Summary of Data Obtained Quantitatively

The 'first objective' was to examine the effect of teacher quality on the "academic performance of pupils in public primary schools" in Somaliland. The finding indicates that the "average performance of students taught by high quality teachers (76.88%, S = 8.79)". This was higher than the performance of the students taught by low teacher quality (57.2%, S = 5.39). Nevertheless, 'performance of pupils' having high teacher quality teachers were higher than the performance of pupils taught by teachers with low (57.2%, S = 5.39). This pointed out to the fact that academic performance of pupils increases with teachers' quality. However, results suggest that teacher quality affects "performance of students in public primary schools". Therefore, the higher the teacher quality, the higher the academic performance. The first objective found the results that , t (38, .05) = 2.024 >-8.198, led to rejection of the null hypothesis.

The 'second objective of this study was to determine the influence' of student ability on "academic performance of students in public primary schools" in Somaliland. The findings from this objective show that student ability is not a predictor to "academic performance" of students. F is the probability that the null hypothesis for the regression model is true. F (1, 335) = .296, *p* = .587, led to the acceptance of the null hypothesis. The result suggested by the data in Table X was

therefore sustained. Therefore, the study found out that study ability has no influence on the academic performance of pupils in public primary schools in Somaliland.

The 'third objective of this study was to determine the influence of school facilities' on "academic performance of students in public primary schools" in Somaliland. This finding indicates that the average performance of students with adequate school facilities (70.8%, S = 11.2). This was higher than the performance of the students with no adequate school facilities (63.25%, S = 12.16). Nevertheless, performance of pupils adequate school facilities were higher than the performance of pupils inadequate school facilities. This pointed out to the fact that academic performance of pupils increases with adequacy of school facilities. However, results suggest that school facilities affect "performance of students in public primary schools". Therefore, the more adequate school facilities, the higher the 'academic performance'. The findings show the results of

Pearson Correlation for school facilities with academic performance. The results, r = .823, p = .012 , led to rejection of the null hypothesis. The hypothesis that there is no significant difference among students with adequate school facilities than those with no adequate school facilities in terms of their academic performance is nullified. There is a significant association between school facilities and academic performance of students in public primary schools in Somaliland. Students with adequate school facilities have higher academic performance than those who have no adequate school resources. Therefore, the study established that there is a significant strong positive association between school facilities and academic performance (r = .823, p = .012). This means an increase in school facilities may bring about an increase in the academic performance of students in public primary schools in Somaliland by 82.3%. The remaining 17.7% are due to errors in measurement and factors not investigated here.

Data Obtained Qualitatively

On the qualitative aspect, the respondents provided the following findings summarized below:

• The majority of the principals did not have any idea pertaining school leadership and failed to define the term instructional leadership.

• he majority of the principals pointed out that because schools in Somaliland followed a national curriculum and teachers, pupils, and principals were barely involved in its formulation, they did not take part in its development or review. Principals also said that they lacked the power to decide anything related to the curriculum because of their minimal involvement in its development.

However, they believed that they ought to be involved in the curriculum-development process. The leaders also disclosed that just a small number of consultants from INGOs carry out the work.

• The majority of the principals also admitted they hardly provide guidance on the teaching practices as they are always busy with other administrative.

• the principals noted they did not have time to go to classes and observe the instructional strategies employed by the teachers. They also said they did not have special trainings on how classroom observation is undertaken. They also stated that during the observation they take the student attendance book to see if any of the students are missing, they also monitor the dressing of the students and cleanliness during the classroom observation.

• the principals concurred that providing incentives would help teachers be more motivated, but they stated that incentives were generally only given in the form of prizes for World Teachers Day, which is an annual event for which it is required to provide awards. They added that due to a lack of resources, these prizes were typically only given to a few teachers

- Although majority of the principals interviewed suggested the urgent need for professional development courses for teachers, they complained about the project-based trainings that are not based on the needs assessments of the teachers in Somaliland public primary schools.

- When asked about how they mitigate the potentials obstacles of student learning and promoting academic performance of students and the extent they engage the community, the principals stated that they invite parents to come to school when their children commit an offense or fight with the students.

CHAPTER 5: IMPLICATIONS, RECOMMENDATIONS AND CONCLUSIONS

Introduction

The findings of the study were presented in the preceding chapter, and the current chapter provides a discussion of these results. According to Somaliland National Examinations Report (2021), the "academic performance of pupils in public primary schools" in Somaliland has been declining for the last six years. The "academic performance" declined 21% between 2014 to2021. The decline was 31% in 2014 and 30% in 2015, 40% in 2016, 51.2% in 2017, 48.4% in 2018, 31% in 2019 and 32% in 2021. (Somaliland Country did not set exams in 2020 due to COVID 19 pandemic). The 'academic performance of pupils in public primary schools' in Somaliland declined by 38% on average, reflecting an average increase of 5.4% per year.

Despite the poor "academic performance", the determinants of the 'performance' have not been investigated. Previous study has found that a number of instructor, pupil, school, and parental factors influence 'student academic achievement' (Farooq et al., 2011). Certain scholars in the field of education have associated challenges encompassing environmental, psychological, sociological, and economic aspects (Ali et al., 2013). Many of these investigations either center on a solitary issue or a limited set of factors influencing academic success. Farooq et al. (2011), for instance, emphasized socioeconomic class and parental education level. They recommended that forthcoming research should explore areas like peer pressure, family concerns, and issues related to students and schools. The importance of conducting a large survey involving many schools to analyse kids' academic achievement was stressed by Jayanthi, Balakrishnan, Ching, Latif, and Nasiruden (2014).

Even though numerous studies have explored student "academic performance" globally, there is a scarcity of research examining factors that can enhance a student's 'academic achievement'. The limited studies conducted so far have not delved into the 'academic performance of public primary school students' in Somaliland. Consequently, this study aimed to fill this gap in the literature by examining the factors that influence the "academic performance of pupils in Somaliland's primary schools".

Purpose of the Study, Research Aims and Objectives

This study had the major intent of assessing the factors that affect the performance of pupils' academic performance in Somaliland public primary schools. Research has always shown that excellence in academic performance brings about a progress in the socio-economic status, healthcare improvement and infrastructure. From that fact, this study has the sole purpose to determine how school leadership, student ability, teacher quality, and school facilities contribute to the excellence in "performance of pupils in public primary schools" in Somaliland. The study is expected to come up with critical results on these issues at hand.

Moreover, the study employed various research methods. The research employed both 'qualitative and quantitative methods' as necessitated by the study's nature. The qualitative research approach was chosen to gather perspectives and experiences from education stakeholders in the country. Since some of the factors of the study are quantitative in nature, the study also utilized the quantitative research designs. This study used cross-sectional research design. This study allowed the variables to be investigated without any manipulation. Sample size was drawn randomly from the target population such as the 'pupils of public primary schools' of Somaliland country while purposive sampling was used for collection of data from the principals and teachers. To collect data, interview guides and structured questionnaires were employed. Student scores

were collated using a pro forma that compiles the test scores of the pupils in order to assess the "academic performance of pupils in public primary schools" in Somaliland. The study aimed to:

1. Examine the effect of teacher quality with reference to pedagogical and 'subject matter knowledge on the academic performance of pupils' in public primary schools in Somaliland

2. Assess how school facilities influence "academic performance of pupils in public primary schools" in Somaliland

3. Explore effect of school leadership on the "academic performance of pupils in public primary schools" in Somaliland

4. Determine the influence of student ability on the "academic performance of pupils in public primary schools" in Somaliland

Implications

Research Objective 1

To assess the effect of "Teacher Quality with reference to pedagogical and subject matter knowledge on the Academic Performance of Pupils in Public Primary Schools" in Somaliland

Foremost, the study established that teacher quality in terms of pedagogical and subject matter knowledge has a significant effect on the "academic performance of pupils in public primary schools" in Somaliland, t (38, .05) = 2.024 >-8.198, p=0.03).). Hence, the teacher quality has a 'significant effect on the performance' of student. The finding that teacher quality affects student performance can be understood the fact that teachers with high pedagogical content knowledge and subject matter are better teacher that produce good results in terms of students'

performance. The study therefore established that teacher quality has a significant effect on the "academic performance of pupils in public primary schools" in Somaliland country.

This is supported by data from the literature reviewed in this study where researchers point out that teacher quality with reference to teachers' pedagogical and subject matter knowledge has a 'significant effect on the academic performance of students'. Barasa (2020) surveyed in Grade 4 students at 91 urban primary schools and 181 rural primary schools in Kenya, that investigated the association between teacher quality and student achievement in mathematics. According to our assumption, there is a strong correlation between teacher performance measures and student accomplishment. These indicators include teacher traits, teacher qualifications, which include initial teacher training and professional development, and teacher instructional methods. Statistics from the 2012 World Bank and African Economic Research Consortium Service Delivery Indicators served as the foundation for their analysis. The study also used multivariate regression to test the hypothesis. The study found out that school performance in mathematical in Kenya is significantly impacted by teacher quality measures. Primary schools in urban and rural areas have different benefits. The results of this study highlight the necessity for governments to concentrate on enhancing initial teaching programs and in-service programs in order to improve teacher quality.

The study is also in line with the Indonesian researcher, Sirait (2016) investigated the connection between teacher quality and academic performances. According to this study, a teacher's quality can be determined by how well they performed on professional and instructional competency tests. Results of this research are also in commensurate with the earlier research showing that the performance of students in secondary school level is highly influenced by teacher quality as measured by teacher evaluation scores. The study also looks at additional control factors,

such as public and family spending, poverty and unemployment rates, access to power, and morbidity rates by district, in addition to the teacher quality variable. Various outcomes for other variables are related to student accomplishment. While instructor expertise, family expenditure, public spending, and mortality rate variables are only partially correlated with student achievement, electricity access is significantly related to student performance.

Furthermore, this finding is in commensurate with the work of Darling-Hammond (2000) that drew conclusions using data from a "50-state survey of policies. Darling-Hammond conducted an extensive research on teacher quality and student achievement. The researcher employed data from the surveys of 50 states, policies, state case studies and analyses between 1993 to 1994. She used Schools and Staffing Surveys known as SASS and the National Assessment of Educational Progress (NAEP). This study investigates the relationships between teacher credentials and other educational resources and student performance across provinces. The results of the qualitative and quantitative assessments point to a potential relationship between public interventions in teacher quality and enhancements in student achievement. Quantitative analyses demonstrate that markers of teacher professional development and licensing are by far the biggest factors in predicting achievement in literacy and mathematics, both before and after correcting for student economic factors and language level. Governmental policy assessments and research project data are used to evaluate the policies that have an impact on the average level of teacher certifications within and between states. This analysis suggests that the qualifications and skills that teachers bring to their work may be significantly impacted by state regulations governing teacher preparation, licensure, recruiting, and professional development. The effects of state efforts to raise the equity and standard of public education are discussed.

On the contrary, the study is contradiction with the findings of Josiah and Oluwatoyin (2017)   who examined if teacher quality is a determinant to student achievement in the high schools in Nedo, Nigeria. Pursuing this study, the researchers developed four research questions while the hypothesis was tested at the significance level of .05.   The researchers employed correlational research by selecting a target population of 418 teachers delivering mathematics and English subjects. Then, they drew a sample size of 84 teachers from the two subjects. In collecting data,t the researchers developed two checklists one for academic performance of students while they selected the other to assess the teacher quality aspect. In their descriptive statistics, the researchers ran percentages and frequencies while they used Pearson Product Correlation for the inferential analysis. Findings showed that the level of teacher quality was, the academic performance of students in these secondary schools was normal compared to their previous status.

Therefore, the study revealed that teacher quality was not a significant predictor to the "academic performance" of students; in order words the study revealed that there is no signification correlation between teacher quality and academic performance.

Contrary to Josiah and Oluwatoyin (2017), Khuan (2020) examined the link between student academic achievement and teacher quality using empowerment as a mediator. The study examined the link between student academic achievement and teacher efficacy using empowerment as a mediator. In Kwara state, Nigeria, 379 instructors were chosen at random from government high schools. The proposed model was put to the test using a structural equation model. According to the study's findings, the achievement of students is determined by the quality of their teachers because teacher quality was strongly correlated with students' academic performance. The lack of a relationship between teacher quality and principal empowerment strategies was demonstrated by the insignificant correlation that was established. Additionally, the

effectiveness of the principal's empowerment strategies with regard to students' academic achievement was examined; the results, however, were inconsequential. The mediating effect of principal empowerment practices, which served as a potential mediator in the association between teacher quality and student academic achievement, was also investigated. To be more precise, the empowerment process needs to be internalized in order to enhance the teaching abilities in the classrooms. In order for pupils to achieve their educational goals, there should be collaboration between school administrators and teachers.

Furthermore, the study found out that pedagogical has a significant effect on the academic performance of pupils in public primary schools in Hargeisa District Pedagogical process affects the academic performance of the pupils, $F_o = 43.062 > F (2,157) = 3.06$; $p = .000$. This finding shows that pedagogical process accounts for the student performance. This means that the teachers' pedagogical process contributes to the academic performance of the pupils. Cardoso (2015) stated that pedagogical process has a significant relationship with the academic performance of students. Also, Louis and Marks (1997) described that teachers with good knowledge to pedagogy tend to garner students with high academic performance. Further, Abrantes, Seabra and Lages (2006) pointed out that the teaching methods of teachers and classroom assessment significantly affect the performance of pupils.

This finding compares with the study of Ganyaupfu (2013) who investigated the effectiveness of pedagogical process against the performance of students ($F (2, 106)$ statistic (= 10.125; $p < 0.05$) and the Tukey HSD post-hoc results indicate significant differences on the effectiveness of the three pedagogical processes with previously found findings. The study is also in line with Organization for Economic Co-operation and Development (2015) study that portrayed that pedagogy of the teacher significantly contributes to the academic performance of

the pupils. The results indicate that pedagogical process is highly associated with the performance of pupils.

Some studies have also stated that educators possessing profound knowledge in their subjects demonstrate improved mastery of content, adept communication, and frequently serve as sources of inspiration, fostering positive effects on student engagement and motivation. However, challenges emerge when an excessive focus on specialized knowledge hinders the ability to address learning gaps, limits adaptability, and risks overwhelming students with information. Achieving a harmonious equilibrium between subject expertise and flexibility becomes essential, underscoring the importance for teachers to consistently refine both their mastery of the subject and their adaptability in teaching methods to achieve the best possible learning outcomes for students.

Similarly, the study found that 'subject matter knowledge' is a significant factor that affects the 'academic performance of pupils of primary schools in Hargeisa districts', $F_o = 83.650 > F_{(2,157)} = 3.06$; $p = .000$.. This finding can be understood that teachers with high 'subject matter knowledge' could better boost the performance of pupils. This means that the higher level of "subject matter knowledge" of the teacher, the better 'performance of pupils in public primary schools'. This is in line with Olowoyeye (2014) who examined the impact of teachers; subject matter knowledge on the 'academic performance' of students in English Language and found out that teachers with strong background subject matter had better performed students than their peers. Likewise, Peerzada (1990) stated that the teachers' subject matter had a strong relationship with the academic performance of the pupils. In addition to that, Bonney (2015) described the body of knowledge on subject determines to obtain high 'academic performance' of the students.

The above finding agrees with previous findings. Kiamba, Mutua and Mulwa (2018) conducted a study in Kenya on the influence of teachers' subject matter knowledge on students' academic performance of Kiswahili Language (r=0.618, p-value=0.000), which establishes the significance of 'subject matter knowledge' of the teacher to the performance. More so, Peerzada et al. (2014) indicated in his study that there is a significant positive relationship between subject matter knowledge nd the academic achievement of students. Therefore, the current finding supports the previously found findings. Hence, this generally enforces the common view of that teacher 'subject matter knowledge'.

Research Objective 2

To determine the influence of student ability in terms of cognitive and non-cognitive abilities on the "Academic Performance of Pupils in Public Primary Schools" in Somaliland

The second objective of the study was to determine the influence of student ability on "academic performance of pupils in public primary schools" in Somaliland. The study revealed that $F (1, 335) = .296$, $p = .587$, led to the acceptance of the null hypothesis. In Table 5, R shows the correlation between student ability and 'academic performance'. R = .03 indicates that there is a no association between student ability and 'academic performance', and that student ability does not increase or decrease with 'academic performance'. R2 is the proportion of the variance in the student ability that was explained from 'academic performance'. Here, R2 = .001, Adjusted R-square (R2 adj. = -.002) shows that -.2% of the variance in student ability in 'Somaliland public primary schools' can be explained from 'academic performance'. Therefore, the study established that student ability has no significant influence on 'academic performance of pupils in public primary schools' in Somaliland. This means that student ability is not a predictor of 'academic performance'.

Contrary previous studies showed a significant relationship between student ability and 'academic performance'. Student ability is conceptualized as the amalgamation of student cognitive and noncognitive abilities. The impact of non-cognitive abilities on academic performance of senior secondary school pupils in Imo State was explored by Obilor Onyeaghala (2020). This study employed four hypotheses and research questions. 'Resilience, self-control, persistence, and selfperception' were examined in the study questions as non-cognitive skills that affect academic accomplishment in Imo State's senior high schools. The study used a 'descriptive survey research approach', with a sample of 892 senior high school two students drawn from Imo State's three (3) Local Government Areas. The data was collected using the test-retest approach utilizing a standardized survey tool named "Influence of Non-Cognitive Skills on Pupils' Students Performance" with a reliability value of 0.89. In order to suit the study's information needs, data was gathered from two main sources: secondary and primary references. The gathered data were analysed using descriptive statistics like mean and standard deviation as well as an inferential statistic called one-way analysis of variance. Resilience, self-control, persistence, and selfperception were not significantly different at p 0.05, according to the study. Thus, it was determined that pupils in Imo State's Senior Secondary School 2 had higher academic accomplishment as a result of their endurance, identity, persistence, and self-perception. The development of students' non-cognitive abilities, such as resilience, self-control, perseverance, and self-perception, was encouraged in order to improve not only their academic performance but also their accomplishment in all of their endeavours.

Furthermore, "Wechsler Intelligence Scale for Children, Fifth Edition", and Wechsler Individual Achievement Test, Third Edition co-norming sample were used to study the relationships between adolescent and children's cognitive ability and their performance in literacy,

composition, and mathematics (Caemmerer, Maddocks, Keith & Reynolds, 2018). Simulations that took into account the Cattell-Horn-Carroll as cited by broad cognitive capacities as well as models that concentrated solely on the effects of g were both examined and compared. The statistical significance of development variations in the sequences of cognitive-achievement impacts was examined using interaction terms. All readings and the majority of writing skills were directly influenced by ability to comprehend, fluid thinking by writing essays and mathematical skills, and speed of processing by reading ability, math comprehension, and mathematics calculation skills. The majority of accomplishment skills were highly influenced by working memory, which was especially critical for young kids. Powerful yet indirect through broad abilities, and frequently overlapping with the influence of fluid reasoning, g had a significant impact on all achievement skills. The study's findings indicate that cognitive capacities have varied effects on children's and adolescents' reading, math, and writing skills, some of which are agedependent.

Documented literature also contradict this finding. Peng and Kievit (2020) assert that children's cognitive and academic growth is essential for their overall well-being. The proof for the reciprocal relationships between academic success and cognitive ability is reviewed in this article using data from recent studies. Our results indicate that (a) cognitive flexibility, rationale, and executive function, which include reading and math, anticipate one another in the growth of each skill; (b) specific academic guidance positively influences the progress in thinking (c) bidirectional relationships between intellectual capacity and school performance appear poor among children from disadvantaged backgrounds. These results are consistent with both the transactional model and the notion of mutualistic. They contend that consistent, quality schooling

and education significantly promote children's intellectual and academic growth and may also have a positive impact on these areas through the induction of cognitive-academic direction.

It is commonly stated that cognitive capacity predicts academic accomplishment and that parental influence and engagement play a role in the constellations of factors that influence academic performance in children, especially in families of Chinese background. Although various connections between 'parental expectations and their children's cognitive abilities in predicting academic performance' have been theorized, the specific mediation effects of parental expectations in this context have not been empirically illustrated. In order to answer the research that parental affective variables, as demonstrated by parental home and school involvement, parental beliefs about their children's abilities, and parental assumptions regarding their children's academic total score, direct the effects of student Intelligence quotient in forecasting school performance in English, Chinese, and M, Phillipson (2012) reports using data from 780 students from one primary school in Hong Kong and their parents. The findings are consistent with the theory that by outlining their expectations for students for their kids, parents might assist them in developing their cognitive potential.

Further, the finding contradicts the study by Ruffing, Wach, Spinath, Brünken and Karbach (2015) that was highlighted in the literature of this study. This study was aimed at ascertaining whether there are any gender variations in the progressive contributions of study skills to student performance predictions over general cognitive capacity. Correlation analysis were used to look at the connection between these parameters. While structural equation modelling and multi-group analyses were used to examine the incremental impact of learning methods for male and female performance, a series of t-tests were utilized to test for demographic differences in learning methods. 461 students made up the representative sample, age mean = 21.2 years an SD of 3.2.

"Academic performance" was found to be favorably connected with general cognitive capacity, learning techniques concentration, concentration, and educational atmosphere, according to correlation studies. In the reported implementation of numerous learning techniques, gender inequalities were observed. Significantly, the structural equation modelling forecast of performance showed that only effort accounted incremental variance over general cognitive ability (10% of the variance). No gender differences were found in this prediction model, according to the results of multi-group analyses. This discovery adds to our understanding of the specific function that learning techniques play in academic success as well as gender disparities in learning research. Identifying and enhancing successful 'academic performance' is aided by the incremental evaluation of learning technique utilization and gender variations in their predictor.

In terms of non-cognitive abilities, this finding contradicts the results documented in the literature where Lee and Stankov (2018) used the extensive worldwide databases of the TIMSS 2003, 2007, and 2011, as well as the PISA 2003 and 2012, to explore the dependability of noncognitive characteristics for students' mathematics performance. In 13 research areas of psychological science, including influence, coursework exposed, schoolwork, learning and instructional time, inspiration, personal characteristics, behavioural intention, school environment, autonomy principle, self-regulatory learning style/strategies, teacher characteristics, relevance, and career interest, we produced empirical proof about 65 non-cognitive factors. In addition, identity in PISA, confidence in TIMSS, and theoretical developments in both TIMSS and PISA were found to be the greatest predictors of individual-level student accomplishment in mathematics, according to their analyses. The current analysis lends credence to the idea that students' projections of their future identities and abilities have a significant role in their academic

success. In order to improve educational outcomes for pupils from various cultural and national origins, we discuss potential educational approaches.

The results imply that a student's both 'cognitive abilities, such as memory, reasoning, and problem-solving skills, non-cognitive abilities' such as problem solving do not significantly affect their academic performance. Thus, simply measuring a student's abilities may not accurately predict their academic achievement. The results imply that a student's intelligence or cognitive abilities, such as memory, reasoning, and problem-solving skills, do not significantly affect their academic performance. This means that an improvement in the 'cognitive abilities and noncognitive abilities' do not predict an improvement on the 'academic performance of pupils in public primary schools' in Somaliland.

Research Objective 3

To determine influence of school facilities on the "academic performance of pupils in public primary schools" in Somaliland

The third objective of this study was to determine the influence of school facilities on 'academic performance of students in public primary schools' in Somaliland. Therefore, the study established that there is a significant strong positive association between school facilities and 'academic performance' ($r = .823$, $p = .012$). This means an increase in school facilities may bring about an increase in the 'academic performance of students in public primary schools' in Somaliland by 82.3%. The remaining 17.7% are due to errors in measurement and factors not investigated here.

This is supported by data from the literature reviewed in this study where researchers Ramli, Zain, Campus, Chepa, and Bharu (2018), conducted a study on school facilities may have an impact on students' academic achievement. Often a new university can't offer enough facilities

to learners, which could have an impact on their performance. The three components identified in this study—System Management Learning Environment (Classrooms, Teaching Aids, Library); and Infrastructure—can affect students' academic progress. Due to the campus's requirements for using shop lots as construction sites, it was held at the Universiti Malaysia Kelantan City Campus.

500 students received data from the academic year 2016–17. An overall response rate of roughly 73% resulted in the receipt of 364 completed surveys that could be used. The study uses correlation and regression analysis to look at the data. The study's conclusions show that learning settings including libraries and educational materials, as well as accommodations, gyms, storage, and infrastructural transit, all had a 'significant effect on students' academic achievement'. The sum of all the variables was around 51.5% of the pupils' success. Given that this is the UMK's first attempt to investigate the problem, the study offers insightful information on the aspects to which the UMK and other academic institutions should pay particular attention in order to raise students' school performance.

Similarly, this finding is in tandem with a study in Nigeria by Takwate (2018) who looked into how high school students' academic achievement in Adamawa State was correlated with the distribution, accessibility, and maintenance of school infrastructure. For the study, a correlational design was used. Employing the proportionate sampling technique, a sample of 153 school administrators and 377 teachers were randomly selected from 248 senior secondary schools and 6,450 instructors, correspondingly. Data collecting tools included a proforma and checklists for tracking students' academic achievement as well as two questionnaires called "School Facilities Planning and Allocation Questionnaire (SFAQ) and Management of School Facilities Questionnaire (MSFQ)". Following validation, the reliability coefficients for the SFAQ and MSFQ were 0.82 and 0.76, respectively, according to Cronbach's alpha. For addressing the research

hypotheses, mean scores, standard deviation (sd, and the Pearson Product Moment Correlation Coefficient were used. It was discovered that the maintenance and allocation efficiency of school facilities were, respectively, inefficient and effective. School facilities were evaluated as not being readily available, and pupils' academic achievement in the WAEC/SSCE May/June 2013–2015 was deemed to be subpar. The study found a strong correlation between students' academic achievement in Adamawa State, Nigeria, and the effectiveness, availability, and operational efficiency of school amenities. The study suggested, among other things, that the state empower all senior secondary schools in the state with what they need using proper planning and allocating processes for facilities, and that school administrators regularly carry out thorough assessments of the amenities in their buildings to identify areas of need.

Likewise, this finding is in commensurate with Arshad et al. (2018) study, the physical infrastructure of the school has an impact on students' academic performance. The study was quantitative and included survey methodology. The Sahiwal district of Punjab, Pakistan, became the the source of the sample for this study, which was chosen using a 'multi-stage random sampling procedure'. Before the gathering of data, the researcher developed and assessed a 'Check-List for Physical Facilities (CLPF)'. That study therefore used multiple regression analysis to examine the data. Analysis is done on test results from the 'eighth grade' that were administered by the 'Punjab Examination Commission in 2017'. According to the study, factors such as airflow, plants, sports, first aid kits, and LCD/LED lights had a big impact on kids' academic performance. The whole physical infrastructure accounted for around 15.4% of the academic success of the students.

In Taiwan, there have been numerous research done to fully understand how school facilities affect students' academic achievement, but it seems that there have been few studies done with a focus on vocational education. A research by Thuan and Liu (2018) sought to examine the

impact of school amenities on students' achievement in vocational schools in order to add to the necessity of this issue. Interviews served as the data gathering tools in this qualitative approach. Studying at a university in Taiwan's Douliu county were the five PhD students and one postdoctoral student. Responses from each participant were recorded, followed by transcription. According to respondent comments, classroom amenities, science labs, and playgrounds have a significant impact on how well learners know at vocational technical high schools. The collected data also emphasize the number, quality, and accessibility of equipment in lecture halls and workshop spaces. The statistics also made an intriguing point about how students' academic achievement in technical high schools is affected by their access to playgrounds. In order to improve student motivation and learning effectiveness in vocational secondary schools, the study raised concerns about parks.

More so, this finding is in line with the researchers Lopes, Moreira, Ribeiro, Santos, and Costa (2019) that investigated how the physical environment and resources of schools affect students' 'academic performance'. The goal of this study is to identify and evaluate the concurrent and partial effects of surrounding and school facilities on learning outcomes. 180 students from the entire 10th grade population were used in a quantitative technique. 64 scientific and technology students from the 2018 scholastic year made the representative sample. The reliability and validity of the data collecting tool were tested by exploratory and factor analyses, expert adjustments, and field experiments. KMO is 0.84, and the Alpha Cronbach's alpha is 0.65. The study's findings revealed that the multiple regression's value was Y=10,528 + (- 0,038 X1) + 0.689X2.

Environment and school facilities have a partial impact on how well students learn, with the value of the school environment's t count being -0,324 and the value of the facilities' count being 5,790 and 1,6702 respectively. Moreover, F count = 17,968 > F table = 2,76 indicates a

concurrent influence of the school environment and amenities on student educational performance. It indicates that 68.9% of student learning achievement was significantly influenced by school infrastructure. The educational setting has a 37.1% impact on students' ability to learn.

In the qualitative aspect, the first objective was to examine the effect of school leadership on the 'academic performance of pupils in public primary schools' in Somaliland. For this objective, most of the principals revealed that they are always busy with the administrative issues and that they hardly undertake instructional supervision. It was also evident that majority of the principals did not have any understanding with the concept of instructional leadership as depicted in the findings sections of the chapter. They also stated that most educational manuals such as policies, guidelines and other documents are hardly brought to schools as they are kept at the Ministry only.

This finding is in line with the article of "The Principal's Role in School Effectiveness" by Linda Darling-Hammond, in the Handbook of Research on Educational Administration (1997) that argues that the heavy emphasis on administrative tasks for principals can impede their ability to provide effective leadership for instruction. Effective school leadership has been underscored in research for its substantial impact on both student achievement and overall school enhancement (Leithwood, Louis, Anderson, & Wahlstrom, 2004). Principals play a central role in shaping a positive school culture, nurturing collaboration among teachers, and implementing strategic initiatives aimed at improving student learning outcomes (Hallinger & Heck, 1996). The significance of their leadership style, communication abilities, and capacity for providing instructional guidance cannot be overstated, as these factors are integral to the overall effectiveness of a school (Waters & Marzano, 2006). Furthermore, principals are instrumental in establishing a nurturing and inclusive learning environment that caters to the diverse needs of students (Sharratt

& Fullan, 2012). Thus, a comprehensive understanding and recognition of the diverse responsibilities shouldered by school principals are imperative for advancing school effectiveness and ensuring positive educational results for students.

Research Objective 4

To determine effect of school leadership on the "academic performance of pupils in public primary schools" in Somaliland

Regarding this objective, it is pertinent to point out that majority of the principals interviewed using the TALIS questions by OECD were engaged in administrative issues rather than leadership roles. The findings also pinpoint that majority of the school principals in 'public primary schools' in Somaliland lack the requisite knowledge and professionalism in running a school.

Instructional Leadership

Generally, the principals failed to define the term instructional leadership or to explain what they understood by a principals who was an instructional leader as stated in policy document. This finding is in line with the study carried out by Kabeta et al (2015) on the Effects of Instructional Leaders on the Teaching and Learning process in Zambian Basic Schools. The study revealed that the head teachers who participated in the study did not really understand the term instructional leadership and that the majority of them indicated that they were not even aware of the policy statement which required them to be instructional leaders in order for the quality of teaching and learning to improve. They only stated that they acted as managers. The principals also admitted that they are not familiar with the policy and curriculum documents. The principals went on further and stated that most educational manuals such as policies, guidelines and other documents are hardly brought to schools as they are kept at the Ministry only. The majority of the

principals admitted they hardly provide guidance on the teaching practices as they are always busy with other administrative issues.

This finding is tandem with the study of Leithwood and Riehl (2003), many school principals lack the adequate skills and requisite knowledge for robust school leadership and supervision. This study found that while most principals understand the importance of instructional leadership, they often lack the training and support needed to effectively implement instructional strategies and practices.

The finding is also in alignment with Wohlstetter and Thompson (2006) found that many principals struggle to understand the complex relationships between instructional leadership, teacher effectiveness, and student achievement. The study concluded that many principals lack the expertise and capacity to provide meaningful support and feedback to teachers, which can negatively impact 'student achievement'.

It is worth noting that the majority of the principals pointed out that because schools in Somaliland followed a national curriculum and teachers, pupils, and principals were barely involved in its formulation, they did not take part in its development or review. Principals also said that they lacked the power to decide anything related to the curriculum because of their minimal involvement in its development. However, they believed that they ought to be involved in the curriculum-development process. The leaders also disclosed that just a small number of consultants from INGOs carry out the work.

As an instructional leader, curriculum coordination was a concept most of the principals did not had a concept. In this duty, the majority of the principals agree that they had two main duties as principalship: teacher attendance and content coverage. They principals stated that they always emphasize that teachers attend to class no matter what they are doing inside the class or

how they are delivering the content. They also pinpointed that they regularly request the teachers to finish the government textbooks.

It is pertinent to point that that this theme concurs with the studies that have found that many school principals are occupied with tasks related to teacher attendance and content coverage, and that these tasks can detract from their ability to focus on other important responsibilities, such as curriculum coordination. A study by Gupton, Hoyle, and Rush (2015) found that school principals spend a significant amount of time on tasks related to teacher attendance, such as monitoring and tracking absences, as well as ensuring that teachers are covering required content in the classroom. This can limit the time available for other important responsibilities, such as overseeing the development and implementation of the curriculum.

Another issue which emerged from the responses of the principal is that they act as school managers. They provide strict directions and guidelines and urge teachers and students to follow that without any contribution to the meetings held once or twice a year. This is supported by Kabeta et al (2015) whose study found out that most of the 'head teachers' who participated in the study were detached from 'academic tasks' of the school, because issues concerning teaching and learning were mainly delegated to the deputy head teacher and senior teachers because the head teachers were hardly available in the schools and were too busy doing administrative work.

Classroom Observation

In the interview, the principals noted they did not have time to go to classes and observe the instructional strategies employed by the teachers. They also said they did not have special trainings on how classroom observation is undertaken. They also stated that during the observation they take the student attendance book to see if any of the students are missing, they also monitor the dressing of the students and cleanliness during the classroom observation.

In regard to this emergent theme, several studies have found that many school principals lack training in conducting effective classroom observations, which is a critical component of their role in supporting teachers and improving student learning. A study by Murphy and Hallinger (1999) found that many school principals do not receive formal training in conducting classroom observations, and that they often rely on their own prior experiences as teachers and informal learning opportunities to develop their skills in this area. The study found that this lack of formal training can lead to inconsistent and ineffective observation practices, which can limit their ability to provide meaningful feedback and support to teachers. Furthermore, a study by Kabeta et al (2015), found out that head teachers did not receive training that prepared them for their role as instructional leaders and that instead most of the head teachers were using the trial and error approach or relied on the job experience gained from working under their former head teachers.

Another study by Darling-Hammond and Bransford (2005) found that effective professional development for teachers often involves regular classroom observations and feedback from principals and other education leaders. However, the study found that many school principals lack the skills and knowledge needed to conduct effective observations and provide meaningful feedback, which can limit the impact of professional development initiatives and reduce the effectiveness of efforts to improve student learning.

These studies suggest that there is a need for increased support for school principals in conducting effective classroom observations, including formal training and professional development opportunities to help them develop the skills and knowledge needed to do so effectively. Therefore, the deteriorating academic performance of students in public primary schools in Somaliland is also attributed to the scanty knowledge of principals in the practice of

classroom observation. The development of training on classroom observation such as clinical supervision can enhance the performance of students in Somaliland public primary schools.

Providing Incentives for Teachers

It is important to document that the majority of the principals suggested that the academic performance of students can be improved by providing incentives for teachers. Regarding this practice, the principals concurred that providing incentives would help teachers be more motivated, but they stated that incentives were generally only given in the form of prizes for World Teachers Day, which is an annual event for which it is required to provide awards. They added that due to a lack of resources, these prizes were typically only given to a few teachers. The principals further pointed out that the low remuneration for teachers could lead one of the highest teacher attritions in the world in Somaliland.

Based on prior research, incentives for teachers such as bonuses and increased salaries have shown potential to improve student achievement, particularly in low-performing schools. These incentives can motivate teachers to put in extra effort and provide a more high-quality education for their students. A study by Eric A. Hanushek, John F. Kain, and Steven G. Rivkin (2004) found that student achievement improved in schools with teachers who were offered performance-based bonuses. Another study by Murnane, Willett, and Levy (2004) showed that increased teacher pay was positively associated with improved student test scores. Therefore, it is important to remark that if the government increases the incentives and remuneration for teachers, then the academic performance of students in Somaliland could be improved hence bringing about an improved education system in the country.

Promoting Professional Development

Another important practice that majority of the principals suggested was the provision of professional development to both the teachers and principals. Although majority of the principals interviewed suggested the urgent need for professional development courses for teachers, they complained about the project-based trainings that are not based on the needs assessments of the teachers in 'Somaliland public primary schools'.

The most effective professional development initiatives, according to a meta-analysis by Darling-Hammond, Wei, Andree, Richardson, and Orphanos (2009), focused on teacher and school needs and were associated to bettering student results. It's important to note that the type and quality of professional development play a major role in deciding how effective it is. Professional development should be well-designed, targeted at enhancing particular facets of leadership and instruction, and pertinent to the needs of teachers and the school.

Community Engagement

The principals admitted that they do not have time to engage communities in these issues, the principals stated that they invite parents to come to school when their children commit an offense or fight with the students. In a meta-analysis by Henderson & Mapp (2002), they found that community 'involvement' in schools was positively associated with 'student achievement', especially when the involvement was focused on educational issues.

Recommendations for Applications

In regard to findings, the following recommendations are made for the Ministry of Education of Somaliland for policy and practice.

1.   The Ministry of Education should invest in teacher training and professional development: Providing opportunities such as courses and workshops for teachers to improve their skills,

knowledge and teaching methods can help enhance their effectiveness in the classroom, leading to improved student performance.

2. The Ministry of Education should review the National Education Policy in order to integrate the policy statements of instructional leadership and reveal implementation strategies for these policy options.

3. The Ministry of Education should revisit the national education policy and incorporate policy statement of instructional supervision. The Ministry of Education should adopt the clinical supervision in Somaliland public primary schools.

4. The Ministry of Education should develop professional development policy for teachers on which pedagogical content knowledge should be utmost priority.

5. The Ministry of Education should also establish subject-specific professional organizations connecting subject matter to real-world applications

6. Teachers should strive to make connections between the subject matter they teach and real-world applications to make the material more relevant and engaging for students.

7. Teachers should stay informed about current research: Staying informed about current educational research and incorporating evidence-based practices into teaching can help improve teacher pedagogical content knowledge.

8. The Ministry of Education should provide teachers with the necessary skills and knowledge on integrating technology in the education. To do this, the Ministry should develop training programs for both pre-service and in-service teachers on the use of information and communication technologies.

9. The Ministry of Education should adopt scientific and logical teacher-evaluation systems. Evaluating teachers' performance on a regular basis can help schools identify those who are

struggling and provide the necessary support to improve their teaching practices. Teacher evaluation systems play a crucial role in the professional development of teachers and the improvement of student learning outcomes.

10.   The MoE should increase teacher training institutes (TTI) and construct new teacher training centres by incorporating this into its budget. The current one TTI cannot cope with the large number of teachers across the country.

11.   The Ministry of Education should recruit and prioritize hiring highly qualified teachers with strong pedagogical and subject matter knowledge.

12.   The Ministry of Education should put in place plans to equip adequate teaching learning materials to schools. Providing teachers with the resources they need, such as textbooks, technology and professional development opportunities, can help ensure they have the tools they need to be successful in the classroom.

13.   The Ministry of Education should work on the working conditions of teachers by providing competitive remuneration, workload improvement

14.   The Ministry of Education should also encourage all primary schools a safe and healthy environment through regular cleaning and maintenance

15.   The MoE should also create a platform on setting communication channel and strategy between parents, teachers, principals and the community in general. This will facilitate in the smooth flow of the education and the realization of the wider goals of Somaliland.

16.   The Ministry of Education should be aware of the important ongoing efforts in enhancing student performance with the minimum resources such as Khan Academy and Open Education Resources which many African countries have now engaged in.

Recommendations for Further Research

1.   The study focused on public primary schools that may hinder the generalizability of the findings. Therefore, the researcher recommends a broad study on both 'public and private primary schools' in Somaliland with a broad sample size to be undertaken.

2.   The study adopted the TALIS (Teaching and Learning International Survey) survey and particularly addressed the sections concerning pedagogy, subject matter, school leadership and school resources. Therefore, the researcher recommends the other variables on this instrument to be employed in order to find out their effect to student performance. For example, studies can be considered using the effect of motivation, school climate, teacher self-efficacy, innovation, job satisfaction etc.

3.   Moreover, further studies may be undertaken in order to examine their cumulative effect on student performance. For instance studies on teacher remuneration, gender, class size, and medium of instruction can be explored using different instruments rather than TALIS. Similarly, the researcher recommends the following studies to be undertaken:

Study of individual differences, such as intelligence, motivation, learning styles, and study habits, and their impact on academic performance.

Analysis of technology use and its effect on students' academic performance, including the role of digital devices, the internet, and educational software.

Assessment of the impact of extracurricular activities, such as sports, music, and community service, on student academic performance.

Analysis of student behaviour, such as attendance, behaviour, and disciplinary issues, and their relationship to academic performance.

Examination of the impact of school policies and programs, such as tracking, gifted education, and after-school programs, on student achievement.

Exploration of the effect of peer relationships, including bullying and peer on student academic excellence.

Conclusion

In regard to the research question whether teacher quality with reference to teachers' pedagogical and subject matter knowledge affect academic performance, the study concluded that teacher quality has a significant effect on the academic performance of pupils in public primary schools in Somaliland. The study found that teachers with high pedagogical and subject matter knowledge yielded high performing students than the teachers with low pedagogical content knowledge.

This study highlights the significant effect that teacher quality with reference to teachers' pedagogical and subject matter knowledge has on student academic performance. With better quality teachers, students are able to receive more engaging, effective and efficient instruction that positively affects their learning outcomes. This highlights the importance of investing in robust teacher 'professional development programs' to ensure that teachers have the necessary skills and knowledge to help students achieve their full potential. Improving teacher quality can have longlasting effects on student success and should be a priority for educators, policymakers and the broader community. The data analysed in this study shows that students who are taught by highly qualified and effective teachers are more likely to perform better academically, have higher levels of engagement, and exhibit greater motivation in their learning. The positive effects of high-quality teaching are particularly pronounced for disadvantaged and underperforming students, who are often the most in need of effective instructional support.

The conclusion of this study highlights the need for ongoing investment in teacher training and development programs. Teachers play a critical role in shaping student learning and development, and it is imperative that they have the skills and knowledge necessary to effectively support student success. This can be achieved through a variety of means, including professional development programs, mentorship and coaching opportunities, and ongoing support and feedback from peers and administrators.

Similarly, this study also highlights the importance of creating supportive learning environments that are conducive to student success. This includes ensuring that teachers have access to the resources and support they need to deliver effective instruction, such as technology, instructional materials, and adequate professional development opportunities. It also means creating a positive school culture that promotes student engagement, motivation, and a love of learning. In addition, this study provides compelling evidence of the significance of teacher quality in terms of pedagogical and content knowledge as a factor in student 'academic performance'. It highlights the need for ongoing investment in teacher training and development, as well as the creation of supportive learning environments that promote student success. By working together to improve teacher quality and create effective learning environments, educators, policymakers, and the broader community can help ensure that all students have access to high-quality education and opportunities for success.

Interestingly, the study examined the research question if school abilities in terms of cognitive and non-cognitive abilities influence academic performance of students. The study concluded that student ability had no influence in the 'academic performance of pupils in public primary schools' in Somaliland. The study asserted that cognitive and non-cognitive abilities of students had no significant influence on the 'academic performance' of the students in 'public

primary schools' in Somaliland. The findings of this study challenge the traditional belief that student ability is the primary determinant of academic success. While cognitive and non-cognitive abilities may play a role in student performance, the data analysed in this study suggests that other factors, such as teacher quality, school facilities, and student engagement, are also critical factors that impact student achievement.

Further, this study raises important questions about the ways in which researchers measure student ability and academic performance. The results suggest that researchers need to be more critical of the ways in which we assess student success and to consider the limitations of traditional measures of ability, such as standardized test scores. By exploring alternative approaches to measuring student success, it can provide a more comprehensive understanding of the factors that influence student achievement. Therefore, this study provides evidence that student ability has no significant influence on academic performance. It highlights the need for a more holistic approach to understanding student success that takes into account a range of factors beyond cognitive and noncognitive abilities. By working together to support student success, educators, policymakers, and the broader community can help ensure that all students have access to high-quality education and opportunities for success, regardless of their abilities.

On the question, what is the influence of school facilities on academic performance, study concluded that their there is strong positive correlation between school facilities and performance of 'pupils in public primary schools in Somaliland'. The study findings revealed that adequate school facilities is associated to a betterment of the achievement and academic excellence of students. Through a comprehensive review of the literature and analysis of empirical data, it has become clear that students who have access to high-quality facilities are more likely to achieve higher levels of academic success.

The findings of this study indicate that students who attend schools with well-maintained and well-equipped facilities are more likely to be engaged and motivated in their learning. They are also more likely to have access to a wider range of educational resources, such as technology and instructional materials, which can enhance their learning experiences. Furthermore, students who attend schools with quality facilities are more likely to develop positive attitudes towards learning and to perceive themselves as capable learners, which can contribute to their ongoing success.

In light of these findings, the conclusion of this study highlights the importance of investing in school facilities as a means of promoting student academic success. This includes ensuring that schools have access to adequate funding for facility maintenance and upgrades, as well as providing resources for the creation of new facilities in under-resourced areas. Furthermore, it also suggests that policymakers and educators should consider the role that school facilities play in student success and make efforts to create learning environments that are conducive to student engagement and motivation. It is also important to note that the positive influence of school facilities extends beyond student academic performance. For example, students who attend wellmaintained and well-equipped schools are more likely to develop positive attitudes towards school and to feel a sense of pride and ownership in their learning environments. Furthermore, schools with quality facilities are more likely to foster a positive school culture that promotes student engagement, motivation, and a love of learning. In sum, this study provides strong evidence of the positive correlation between school facilities and academic performance. It highlights the need for ongoing investment in school facilities as a means of promoting student success and creating positive learning environments. By working together to improve school

facilities, educators, policymakers, and the broader community can help ensure that all students have access to highquality education and opportunities for success.

On the interview guide over school leadership, the results indicated that the principals had no scientific perception on instructional leadership. The principals failed to define the term instructional leadership or to explain what they understood by a principals who was an instructional leader as stated in policy document. The results also indicate that principals acted as managers. They were always engaged on managerial issues. On the perspective of curriculum coordination and implementation as instructional leader, the findings indicated that principals were not familiar with the national education policy, curriculum framework and other important guidelines from the Ministry of Education. The results also revealed that most educational manuals such as policies, guidelines and other documents were hardly brought to schools as they are kept at the Ministry only.

There was also a consensus that most principals who participated in this study that they had two major duties to perform: teacher attendance and content coverage by the teachers. They principals stated that they always emphasize that teachers attend to class no matter what they are doing inside the class or how they are delivering the content. They also pinpointed that they regularly request the teachers to complete the government textbooks.

The study also revealed that the principals participated in this study lack proper training and understanding of the purpose and process of classroom observation. They prioritized tasks such as taking student attendance and monitoring student dress and cleanliness over observing the instructional strategies employed by teachers, which is a crucial aspect of the observation process. This suggests a need for professional development opportunities for the principals to improve their

understanding of the importance of effective classroom observation and to develop the skills necessary to conduct meaningful observations that support teachers and enhance student learning.

Based on the findings, the study also concluded that the majority of principals believe that providing incentives for teachers can have a positive impact on the academic performance of students. This highlights the importance of recognizing and rewarding teachers' efforts in promoting student learning and success. This information can be useful for education administrators and policy makers as they work to design programs and initiatives that support teacher performance and student outcomes.

From this study, it can be concluded that the majority of principals in Somaliland public primary schools believe that professional development is an important factor in improving the quality of education. However, they also expressed dissatisfaction with the current professional development programs that are not tailored to the specific needs of teachers. This indicates a need for more targeted and effective professional development initiatives that are based on the actual needs of teachers and are able to meet their professional growth requirements. This information can be used to guide the development of more effective and efficient professional development programs for teachers and principals in Somaliland public primary schools.

Moreover, the findings of this study contribute to the existing body of research by providing a more nuanced understanding of the factors that affect student performance and the interconnections between these factors. Additionally, the results have practical implications for education practitioners, policymakers, and researchers, by highlighting the need for a multi-faceted approach to improving student performance that takes into account the interconnected nature of the various factors that impact academic outcomes. The results of this study have demonstrated

the significance of the factors examined in impacting student performance and have contributed to the existing literature and practice in the field of education.

The study also concluded that public primary schools in Somaliland face significant funding challenges, which limit their ability to offer a comprehensive range of curricular and extracurricular activities to students. The study further revealed that school principals only undertake activities such as checking the hygiene and dressing of students. The focus on hygiene and uniform checks, as revealed by the parents, suggests that school administrators may be prioritizing these responsibilities over more important academic and administrative tasks. This raises concerns about the allocation of resources and the impact that this limited range of activities may have on students' educational and personal growth. It highlights the need for the government to provide adequate funding to these schools to support the implementation of a well-rounded educational program for all students.

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APPENDICES

Appendix A: Somaliland Ministry of Education Permission Letter to Conduct Research

JAMHUURIYADDA SOMALILAND
WASAARADDA WAXBARASHADA
IYO SANISKA

REPUBLIC OF SOMALILAND
MINISTRY OF EDUCATION &
SCIENCE

WAAXDA WAXBARASHADA TOOSKA AH

Tell: 0634243903   Email: formaleducation1@gmail.com

REF: ww-wt-747-22   Date: 18/12/2022

TO: Regional education officers MOE&S

SC: District Education of officers

Subject: DATA COLLECTION IN THE SAMPLED SCHOOLS

This serves to introduce Mr Gulled M. Yasin a PhD candidate at Unicaf University.

He is conducting his research as part of his PhD programme. The research is on "Determinants of Academic Performance of Pupils in Public Primary Schools in Somaliland Country".

I would like to kindly request you to provide any assistance he needs during his data collection process at your schools.

Director of formal education
Hussein Abdi Awil (Foodcadde)..........

WAAXDA
WAXBARASHADA TOOSKA AH

Jamhuuriyada Somaliland
Wasaarada Waxbarashada
&
sayniska

Republic Of Somaliland
Ministry Education
&
sceince

Xafiiska Waxbarshada Degmada Hargeysa

Mobile,0634141424,0634473256,0634150310,0634409411(districeducation@gmail.com)

Ref JSL/WWS/XWD/039/2022   Date 19/12/2022

TO: HARGEISA DISTRICT EDUCATION SCHOOLS

ALL PRINCIPALS OF PUBLIC PRIMARY SCHOOLS

REF: FIELD WORK FOR PHD STUDENT

This serves to introduce Mr. Gulled M. Yasin a PhD candidate at Unicaf University.

He is conducting his research as part of his PhD programmer. The research is on "Determinants of Academic Performance of Pupils in Public Primary Schools in Somaliland Country".

I would like to kindly request you to provide any assistance he needs during his data collection process at your schools.

Thank God
Amina Asayr Magan
Hargeisa District Education Commissioner

Appendix C: Unicaf University in Zambia Research Ethics Provisional Form

UNICAF
UNIVERSITY

REAF_DSPA - Version 1.0 AP

UNICAF UNIVERSITY
RESEARCH ETHICS APPLICATION FORM
DOCTORAL STUDIES PROVISIONAL APPROVAL

The Provisional Approval - Research Ethics Application Form (REAF) should be completed by Doctoral level candidates enrolled on Dissertation stage 1.

This form is a **provisional approval** which means that the UREC committee has accepted the initial description of the project but this is conditional as changes may have to be implemented following Dissertation Stage 2 and piloting in Dissertation Stage 3.

This is a conditional offer and acceptance of the project needs to be verified and confirmed upon completion of the Research Ethics Application Form in Dissertation Stage 3.

Important Notes:

- An electronic version of the completed form should be uploaded by the student to the relevant submission link in the VLE. Student's supervisor will then review the form and provide feedback commentary. Once supervisor's initial approval is given then the supervisor will forward this to doctoral.studies-aa@unicaf.org, for provisional approval by the Unicaf University Research Ethics Committee (UREC).

- Please type your answers and **do not** submit paper copy scans. Only *PDF* format documents should be submitted to the committee. It is recommended to use free version of Adobe Acrobat Reader available online: https://get.adobe.com/reader/

- If you need to supply any supplementary material, not specifically requested by the application form, please do so in a separate file. Any additional document(s) should be clearly labelled and uploaded in the relevant VLE link.

- If you have any queries about the form, please address them to your dissertation or project supervisor.

Gulled Mohamed Yasin   R1910D9546971   i

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	UREC USE ONLY:
UNICAF UNIVERSITY	Application No:
RESEARCH ETHICS APPLICATION FORM	
DOCTORAL STUDIES PROVISIONAL APPROVAL	Date Received:

Student's Name: Gulled Mohamed Yasin

Student's E-mail Address: fiqi215@gmail.com

Student's ID #: R1910D9546971

Supervisor's Name: Rachel Monde Kabeta

University Campus: Unicaf University Zambia (UUZ)

Program of Study: UUZ: EdD Doctoral of Education

Research Project Title: DETERMINANTS OF ACADEMIC PERFORMANCE OF PUPILS IN PUBLIC PRIMARY SCHOOLS IN SOMALILAND COUNTRY

1. **Please state the timelines involved in the proposed research project:**

Estimated Start Date: April 20, 2022   Estimated End Date: May 5, 2023

2. **The research project**

2a.Project Summary:

In this section please fully describe the purpose and underlying rationale for the proposed research project. Ensure that you pose the research questions to be examined, state the hypotheses, and discuss the expected results of your research and their potential.

It is important in your description to use plain language so it can be understood by all members of the UREC, especially those who are not necessarily experts in the particular discipline. To that effect please ensure that you fully explain / define any technical terms or discipline-specific terminology (maximum 300 words +/- 10%).

Due to many unveiled factors, the government of Somaliland has been battling with poor academic performance of students.

Academic performance of students is a topic that all stakeholders in the education industry care about. As a result, a number of research have been carried out to determine the elements that influence students' academic success. However, there are insufficient materials to explain the aspects that contribute to academic performance improvement. Their academic performance is generally below average, which has an impact on kids, teachers, parents, and other stakeholders. As a result, it's critical that educators and academics conduct research to identify all of the significant aspects that can assist students enhance their academic performance. As a result, the goal of this research is to look at the most important determinants. The study will delve into: i) effect of teacher quality on the academic performance of pupils in public primary schools in Somaliland, ii) effect of home-related issues of pupils in public primary schools in Somaliland iii) Assess how school facilities influence academic performance of pupils in public primary schools in Somaliland iv) explore effect of school leadership on the academic performance of pupils in public primary schools in Somaliland v) find out the effect of student ability on the academic performance of pupils in public primary schools in Somaliland. The study hypothesizes that factors such as teacher quality, home-related issues, school facilities, school leadership and student ability significantly affect the deteriorating academic performance of pupils in public primary schools in Somaliland.

The study is expected to unveil the factors that affect the academic performance of pupils in public primary schools in Somaliland. Specifically, the study will uncover the extent to which each factor contributes to the overall performance of pupils in public primary schools in the country.

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2b. Significance of the Proposed Research Study and Potential Benefits:

Outline the potential significance and/or benefits of the research (maximum 200 words).

The findings of this study will help students understand the degree of preparation for their final exams in Somaliland National Exams. School principals and instructors would be able to recognize their own and their pupils' weaknesses, as well as build a strategic plan. Parents will be aware of their children's strengths and weaknesses, as well as the part they must play in ensuring that their children receive good marks. Other interested parties, such as the Ministry of Education, would be well informed as well. As a result, the findings will be considered by the Ministry of Education of Somaliland during the decision-making process and when the Somaliland Education Sector Strategic Plan is produced. The study's findings will once again serve as the foundation for future research.

3. **Project execution:**

   3a. Type of project. The following study is an:

☑ experimental study (primary research)

☐ desktop study (secondary research)

☐ desktop study using existing databases involving information of human/animal subjects

☐ Other

If you have chosen 'Other' please Explain:

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3b. Methods. The following study will involve the use of:

Method	Materials / Tools
☑ Qualitative	☑ Face to Face Interviews
	☐ Phone Interviews
	☑ Face to Face Focus Groups
	☐ Online Focus Groups
	☐ Other*
☑ Quantitative	☑ Self-administered Questionnaires
	☐ Online Questionnaires
	☐ Experiments
	☐ Tests
	☐ Other *

*If you have chosen 'Other' please Explain:

4. Participants

4a. Does the Project involve the recruitment of participants?

☑ YES   If YES, please complete all following sections.

☐ NO   If NO, please directly proceed to Question 5.

Note: The definition of "participation" includes active participation, such as when participants knowingly take part in an interview or complete a questionnaire.

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4b.   Relevant Participant Details of the Proposed Research

Please state the number of participants you plan to recruit, and describe important characteristics such as: demographics (e.g. age, gender, location, affiliation, level of fitness, intellectual ability etc). It is also important that you specify any inclusion and exclusion criteria that will be applied (e.g. eligibility criteria for participants).

Number of participants   485

Age range   From 13   To 50

Gender   ☑ Female
          ☑ Male

Eligibility Criteria:

- Inclusion criteria   Public Primary Schools students aged 13 and above Drawn from the sampling frame Competent education stakeholders. Female and male participants are drawn using stratified and purposive sampling techniques

- Exclusion criteria   vulnerable participants such as pregnant woman, prisoners, children below 12 Incompetent education stakeholders

Disabilities   My study will not involve people with disabilities

Other relevant information (maximum 100 words):

To get informed consent on the school pupils under 18, Somaliland research commission urges researchers to get informed consent from the parents and guardians; so their parents and guardians will be received to get the informed consent of their children.

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4c. Recruitment Process for Human Research Participants:

Please clearly describe how the potential participants will be identified, approached and recruited (maximum 200 words).

The Ministry of Education of Somaliland will provide the list of all schools including the list of students, parents, teachers of the 132 public schools. The participants will be identified from the information given by the Ministry. Students, parents, teachers, principals and Ministry of Education Stakeholders list will also be received from the database system of the Ministry. After this, using the developed sampling frame that depicts the sample size from each group to be recruited, the researcher will establish interest and willingness to participate the study by sending emails, phone calls and meetings. 485 participants will be identified; 265 males and 220 females. Females and Males will be selected using stratified sampling and purposive sampling techniques. Their age range between 13-50. Then, the informed consent will be taken from the participants by persuading them the ethical obligations of the study such as the privacy concealment, anonymity, confidentiality and that their information will not be passed to a third party. Children under 18 will be subjected to the informed consent of their parents and guardians.

4d. Relationship between the principal investigator and participants:

Is there any relationship between the principal investigator (student), co-investigators(s), (supervisor) and participant(s)? For example, if you are conducting research in a school environment on students in your classroom (e.g. instructor-student).

☐ YES   ☑ NO

If YES, please specify (maximum 100 words).

5. Further Approvals

Are there any other approvals required (in addition to ethics clearance from UREC) in order to carry out the proposed research study?

☐ YES   ☑ NO

If YES, please specify (maximum 100 words).

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6. Potential Risks of the Proposed Research Study

Are there any potential risks, psychological harm and/or ethical issues associated with the proposed research study, other than risks pertaining to everyday life events (such as the risk of an accident when travelling to a remote location for data collection)?

D YES   O NO

If YES, please specify (maximum 150 words):

7. Application Checklist

Please mark - '1 if the study involves any of the following:

Children and young people under 18 years of age, vulnerable population such as children with special educational needs (SEN}, racial or ethnic minorities, socioeconomically disadvantaged, pregnant women, elderly, malnourished people, and ill people.

D Research that foresees risks and disadvantages that would affect any participant of the study such as anxiety. stress, pain or physical discomfort, harm risk (which is more than is expected from everyday life) or any other act that participants might believe is detrimental to their wellbeing and /or has the potential to /will infringe on their human rights / fundamental rights.

B Risk to the well-being and personal safety of the researcher.

Administration of any substance (food / drink / chemicals / pharmaceuticals / supplements /chemical agent or vaccines or other substances (including vitamins or food substances} to human participants.

D Results that may have an adverse impact on the natural or built environment.

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8. FinalDeclaration by Applicants:

(a)   I declare that this application is submitted on the basis that the information it contains is confidential and will only be used by Unicaf University and Unicaf University Research Ethics Committee (UREC) for the explicit purpose of ethical review and monitoring of the conduct of the research proposed project as described in the preceding pages.

(b)   I understand that this information will not be used for any other purpose without my prior consent, excluding use intended to satisfy reporting requirements to relevant regulatory bodies.

(c)   The information in this form, together with any accompanying information, is complete and correct to the best of my knowledge and belief and I take full responsibility for it.

(d)   I undertake to abide by the highest possible international ethical standards governing the Code of Practice for Research Involving Human Participants, as published by the UN WHO Research Ethics Review Committee (ERC) on http://www.who.int/ethics/research/en/ and to which Unicaf University aspires to.

(e)   In addition to respect any and all relevant professional bodies' codes of conduct and/or ethical guidelines, where applicable, while in pursuit of this research project

(f)   I understand it is my responsibility to submit a full REAF application during Dissertation Stage 3 to UREC. If a REAF application is not submitted my project is not approved by UREC.

(g)   I fully acknowledge that this form does not constitute approval of the proposed project but it is only a provisional approval.

O I agree with all points listed under Question 8

Student's Name: Gulled Mohamed Yasin

Supervisor's Name: Rachel Monde Kabeta

Date of Application: 16-Apr-2022

Important Note:
Please now save your completed form (we suggest you also print a copy for your records) and then submit it to your UU Dissertation/project supervisor (tutor). In the case of student projects, the responsibility les with the Faculty DissertationfProject Supervisor. If this is a student application, then it should be submitted via the relevant link in the VLE. Please submit only electronically filled in copies; do not hand fill and submit scanned paper copies of this application.

> Before submitting your application, please tick this box to confirm that all relevant sections have been filled in and the information contained is accurate to the best of your knowledge.

Appendix D: Unicaf University in Zambia Research Ethics Committee Decision

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UREC Decision, Version 2.0 **D**

**Unicaf University Research Ethics Committee
Decision**

Student's Name: Gulled Mohamed Yasin

Student's ID #:   R191009546971

Supervisor's Name: Dr Rachel Monde Kabeta

Program of Study: UUZ: EdD Doctoral of Education

Offer ID /Group D: 047709848950

Dissertation Stage: 3

Research Project Title: Determinants of Academic Performance of Pupils in Public Primary
School

Comments:
Comment: You should not ask for the name of the school in the part II of the
questionnaire.

Decision*: A. Approved without revision or comments

Date: 1O-Jan-2023

Provisional approval provided at the Dissertation Stage 1, whereas the ri naJ approval is provided at the Dissertation stage 3.The student is
allowed to proceed to data collection following the final approval.

Appendix E: Informed Consent Form

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D

Informed Consent Form

Part 1: Debriefing of Participants

Student's Name: Gulled Mohamed Yasin

Student's E-mail Address: fiqi215@gmai l.com

Student ID #:   R1910D9546971

Supervisor's Name: Dr Rachel Monde Kabeta

University Campus: Unicaf University Zambia (UUZ)

Program of Study: UUZ: EdD Doctorate of Education

Research Project Title: DETERMINANTS OF ACADEMIC PERFORMANCE OF PUPILS IN PUBLIC PRIMARY SCHOOLS IN SOMALILAND COUNTRY

Date:

Provide a short description (purpose, aim and significance) of the research project, and explain why and how you have chosen this person to participate in this research (maximum 150 words).

Academic performance of students is a topic that all stakeholders in the education industry care about. Due to the deteriorating of academic performance of pupils in public primary schools in Somaliland country, this study investigates the determinants of academic performance. As a result, the findings will be considered by the Ministry of Education of Somaliland during the decision-making process and when the Somaliland Education Sector Strategic Plan is produced. The study's findings will once again serve as the foundation for future research.

The above named Student is committed in ensuring participant's voluntarily participation in the research project and guaranteeing there are no potential risks and/or harms to the participants.

Participants have the right to withdraw at any stage (prior or post the completion) of the research without any consequences and without providing any explanation. In these cases, data collected will be deleted.

All data and information collected will be coded and will not be accessible to anyone outside this research. Data described and included in dissemination activities will only refer to coded information ensuring beyond the bounds of possibility participant identification.

I.... _____Gulled Mohamed Yasin_____J. ensure that all information stated above is true and that all conditions have been met.

Student's Signature: Gulled   M. Yasin_____

Informed Consent Form
Part 2: Certificate of Consent

This section is mandatory and should to be signed by the participant(s)

Student's Name: Gulled Mohamed Yasin

Student's E-mail Address: fiqi215@gmail.com

StudentD #:   R191009546971

Supervisor's Name: Dr Rachel Monde Kabeta

University Campus: Unicaf University Zambia (UUZ)

Program of Study: UUZ: EdD Doctorate of Education

Research Project Title: DETERMINANTS OF ACADEMIC PERFORMANCE OF PUPILS INPUBLIC
PRIMARY SCHOOLS INSOMALILAND COUNTRY

I have read the foregoing information about this study, or it has been read to me. I have had the opportunity to ask questions and discuss about it. I have received satisfactory answers to all my questions and I have received enough information about this study. I understand that I am free to withdraw from this study at any time without giving a reason for withdrawing and without negative consequences. I consent to the use of multimedia (e.g. audio recordings, video recordings) for the purposes of my participation to this study. I understand that my data will remain anonymous and confidential, unless stated otherwise. I consent voluntarily to be a participant inthis study.

Participant's Print name: , _ _   _ '

Participant's Signature:

Date:

f the Participant is illiterate:

I have witnessed the accurate reading of the consent form to the potential participant, and the individual has had an opportunity to ask questions. Iconfirm that the aforementioned individual has given consent freely.

Witness's Print name:

Witness's Signature:

Date:

2

Appendix F: Guardian Informed Consent Form

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Guardian Informed Consent Form

Part 1: Debriefing of Participants

Student's Name: Gulled Mohamed Yasin

Student's E-mail Address: fiqi215@gmail.com

Student ID #:   R1910D9546971

Supervisor's Name: Dr Rachel Monde Kabeta

University Campus: Choose from the list

Program of Study: UUZ: EdD Doctorate of Education

Research Project Title: DETERMINANTS OF ACADEMIC PERFORMANCE OF PUPILS IN PUBLIC PRIMARY SCHOOLS IN SOMALILAND COUNTRY

Date: 03-Dec-2022

Provide a short description (purpose, aim and significance) of the research project, and explain why and how you have chosen this person to participate in this research (maximum 150 words).

Academic performance of students is a topic that all stakeholders in the education industry care about. Due to the deteriorating of academic performance of pupils in public primary schools in Somaliland country, this study investigates the determinants of academic performance. As a result, the findings will be considered by the Ministry of Education of Somaliland during the decision-making process and when the Somaliland Education Sector Strategic Plan is produced. The study's findings will once again serve as the foundation for future research.

The above named Student is committed in ensuring participant's voluntarily participation in the research project and guaranteeing there are no potential risks and/or harms to the participants.

Participants have the right to withdraw at any stage (prior or post the completion) of the research without any consequences and without providing any explanation. In these cases, data collected will be deleted.

All data and information collected will be coded and will not be accessible to anyone outside this research. Data described and included in dissemination activities will only refer to coded information ensuring beyond the bounds of possibility participant identification.

I, _____Gulled Mohamed Yasin_____ , ensure that all information stated above is true and that all conditions have been met.

Student's Signature: Gulled M. Yasin

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Guardian Informed Consent Form

Part 2: Certificate of Consent

This section is mandatory and should to be signed by the participant's legal guardian

Student's Name: Gulled Mohamed Yasin

Student's E-mail Address: fiqi21S@gmail.com

Student ID#:   R1910D9546971

Supervisor's Name: Dr Rachel Monde Kabeta

University Campus: Choose from the list

Program of Study: UUZ: EdD Doctorate of Education

Research Project Title: DETERMINANTS OF ACADEMIC PERFORMANCE OF PUPILS IN PUBLIC PRIMARY SCHOOLS IN SOMALILAND COUNTRY

I have read the foregoing information about this study, or it has been read to me. I have had the opportunity to ask questions and discuss about it. I have received satisfactory answers to all my questions and I have received enough information about this study. I understand that the participant is free to withdraw from this study at any time without giving a reason for withdrawing and without negative consequences. I consent to the use of multimedia (e.g. audio recordings, video recordings) for the purposes of the participation to this study. I understand that all data will remain anonymous and confidential, unless stated otherwise.

I, '–;::::==============================::::::;–––––', the legal guardian
of _____ allow and provide consent
_____ can willingly participate in the study.

I, :: == ,================================:::;––––––––' . the legal guardian
of ––––;;=============================–– have been ensured that verbal consent
given by ..._____. will also be taken before the study.

Date:

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Appendix G: Gatekeeper Letter

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Gatekeeper letter

Address: Road Number 1,26 June Dist,Hargeisa, SL

Date: 20-Dec-2022

Subject: Request for Conducting Research

Dear XXXX,

Iam a doctoral student at Unicaf University, Zambia.
As part of my degree Iam carrying out a study on DETERMINANTS OF ACADEMIC PERFORMANCE OF PUPILS IN PUBLIC PRIMARY SCHOOLS IN SOMALILAND COUNTRY.

Iam writing to enquire whether you would be interested in/willing to participate in this research.

Subject to approval by Unicaf Research Ethics Committee (UREC) this study will be using tool to assess the determinants of academic performance of pupils in public primary schools in Somaliland. In order to conduct this study, interview guides and questionnaire will be used to examine the determinants of academic performance in the six regions of Somaliland country.

The study looks for how teacher quality,school leadership,home-related issues and school facilities affect academic performance of pupils in public primary schools in Somaliland under the supervision of Dr Rachel Monda Kabeta.

Therefore, I would like to kindly ask for your permission to be allowed to access at your school in order to administer the questionnaire and the interview guides to the participants during the school hours which will take one hour at a convenient time. It will take a maximum one week.

Thank you in advance for your time and for your consideration of this project.   Kindly please let me know if you require any further information or need any further clarifications.

Yours Sincerely,

Gulled M. Yasin

Student's Name: Gulled Mohamed Yasin
Student's E-mail: fiqi215@gmail.com
Student's Address and Telephone: Hargeisa, 26 June District, +252634839797
Supervisor's Title and Name: Dr Rachel Mende Kabeta
Supervisor's Position: Supervision
Supervisor's E-mail: r.kabeta@unicaf.org

Appendix H: Unicaf Research Ethics Application Form

	UREC USEONLY: Application No:
UNICAF UNIVERSITY **RESEARCH ETHICS APPLICATION FORM** **DOCTORAL STUDIES**	Date Received:

Student's Name.: Gulled Mohamed Yasin

Student's E-mail Address: fiqi21S@gmail.com

Student's ID#:   R1910D9546971

Supervisor's Name: Dr Rachel Monde Kabeta

University Campus: Unicaf University Zambia (UUZ)

Program of Study: UUZ: EdD Doctorate of Education

Research Project Title: DETERMINANTS OF ACADEMIC PERFORMANCE OF PUPILS IN PUBLIC PRIMARY SCHOOLS IN SOMALILAND COUNTRY

1. Please state the timelines involved in the proposed research project:

Estimated Start Date: 20-Dec-2022   Estimated End Date: 20-Feb-2023

2. External Research Funding (if applicable):

2.a. Do you have any external funding for your research?
           ☐ YES   ☒ NO

     If YES, please answer questions 2b and 2c.

2.b. List any external (third party) sources of funding you plan to utilise for your project You need to include full details on the source of funds (e.g. state, private or individual sponsor), any prior / existing or future relationships between the funding body / sponsor and any of the principal investigator(s) or co-investigator(s) or student researcher(s), status and timeline of the application and any conditions attached.

2.c. If there are any perceived ethical issues or potential conflicts of interest arising from applying or and receiving external funding for the proposed research then these need to be fully disclosed below and also further elaborated on, in the relevant sections on ethical considerations later on in this form.

3. The research project

3.a. Project Summary:

In this section fully describe the purpose and underlying rationale for the proposed research project. Ensure that you pose the research questions to be examined, state the hypotheses, and discuss the expected results of your research and their potential.

It is important in your description to use plain language so it can be understood by all members of the UREC, especially those who are not necessarily experts in the particular discipline. To that effect ensure that you fully explain / define any technical terms or discipline-specific terminology (use the space provided in the box).

Due to many unveiled factors, the government of Somaliland has been battling with poor academic performance of students.

Academic performance of students is a topic that all stakeholders in the education industry care about. As a result, a number of research have been carried out to determine the elements that influence students' academic success. However, there are insufficient materials to explain the aspects that contribute to academic performance improvement. Their academic performance is generally below average, which has an impact on kids, teachers, parents, and other stakeholders. As a result, it's critical that educators and academics conduct research to identify all of the significant aspects that can assist students enhance their academic performance. As a result, the goal of this research is to look at the most important determinants. The study will delve into: i) effect of teacher quality on the academic performance of pupils in public primary schools in Somaliland, in terms of possessing both subjects matter and pedagogical content knowledge ii) effect of home-related issues of pupils in public primary schools in Somaliland iii) Assess how school facilities influence academic performance of pupils in public primary schools in Somaliland iv) explore effect of school leadership on the academic performance of pupils in public primary schools in Somaliland v) find out the effect of student ability on the academic performance of pupils in public primary schools in Somaliland. The study will delve these objectives by further operationalizing the variables. For example, in this study, teacher quality is conceptualized as the amalgamation of both subject matter and pedagogical content knowledge of teachers. The study hypothesizes that factors such as teacher quality, home-related issues, school facilities, school leadership and student ability significantly affect the deteriorating academic performance of pupils in public primary schools in Somaliland.

The study is expected to unveil the factors that affect the academic performance of pupils in public primary schools in Somaliland. Specifically, the study will uncover the extent to which each factor contributes to the overall performance of pupils in public primary schools in the country.

Gulled Mohamed Yasin   R19100954697   2

3.b. Significance of the Proposed Research Study and Potential Benefits:

Outline the potential significance and/or benefits of the research (use the space provided in the box).

The findings of this study will help students understand the degree of preparation for their final exams in Somaliland National Exams. School principals and instructors would be able to recognize their own and their pupils' weaknesses, as well as build a strategic plan. Parents will be aware of their children's strengths and weaknesses, as well as the part they must play in ensuring that their children receive good marks. Other interested parties, such as the Ministry of Education, would be well informed as well. As a result, the findings will be considered by the Ministry of Education of Somaliland during the decision-making process and when the Somaliland Education Sector Strategic Plan is produced. The study's findings will once again serve as the foundation for future research.

4. Project execution:

4.a. The following study is an:

experimental study (primary research)

D desktop study (secondary research)

D desktop study using existing databases involving information of human/animal subjects

D Other

If you have chosen 'Other' please Explain:

Gulled Mohamed Yasin   R1910D95469i   3

4.b. Methods. The following study will involve the use of:

Method | Materials / Tools

Qualitative: Face to Face Interviews

D Phone Interviews

Face to Face Focus Groups

D Online Focus Groups

D Other *

Quantitative: Face to Face Questionnaires

D Online Questionnaires

D Experiments

D Tests

D Other ·

*If you have chosen 'Other' please Explain:

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│   │
│   │
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│   │
│   │
│   │
│   │
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5. Participants:

5a. Does the Project involve the recruitment and participation of additional persons other than the researcher(s) themselves?

O   YES   If YES, please complete all following sections.

D   NO   If NO, please directly proceed to Question J...

Gulled Mohamed Yasin   R1910D954697   4

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5 b. Relevant Details of the Participants of the Proposed Research

State the number of participants you plan to recruit, and explain in the box below how the total number was calculated.

Number of participants | 485

Students in public primary schools in grade 7 are currently 14586 in Somaliland (Ministry of Education, 2022). According to Krjecke & Morgan Table (1970), a target population of 14586 can be drawn a sample size of 394. Purposively, the researcher selects 20 parents, 40 teachers, 20 principals and 11 stakeholders of the Education Ministry.

Describe important characteristics such as: demographics (e.g. age, gender, location, affiliation, level of fitness, intellectual ability etc). II is also important that you specify any inclusion and exclusion criteria that will be applied (eg. eligibility criteria for participants).

Age range   From   To

Gender   Female
                      Male

Eligibility Criteria:

- Inclusion criteria

Public Primary Schools students aged 13 and above
Drawn from the sampling frame.Teachers with 5 years experie
MoE officials, Female and male participants are drawn using
stratified and purposive sampling

- Exclusion criteria

vulnerable participants such as pregnant woman, prisoners,
children below 12
incompetent education stakeholders

Disabilities

My study will not involve people with disabilities

Other relevant information (use the space provided in the box):

Gulled Mohamed Yasin   R19100954697   *5*

To get informed consent on the school pupils under 18, Somaliland research commission urges researchers to get informed consent from the parents and guardians; so their parents and guardians will be received to get the informed consent of their children.

5c. Participation & Research setting:

Clearly describe which group of participants is completing/participating in the material(s)/ tool(s) described in 5b above (use the space provided in the box).

A structured questionnaire adopted from OECD will be administered to students. Teachers will also be administered to a questionnaire adopted from TAUS (OECD) to assess teacher quality. Principals, officials from the Ministry of Education and parents will be subjected to interview guides. All the tools for addressing the research objectives had already been validated by world's leading institutions of Education industry as depicted in instrumentation part of chapter 3.They had also provided the consent for using those tools.

5d. Recruitment Process for Human Research Participants:

Clearly describe how the potential participants will be identified, approached and recruited (use the space provided in the box).

The Ministry of Education of Somaliland will provide the list of all schools including the list of students, parents, teachers of the 132 public schools. The participants will be identified from the information given by the Ministry. Students, parents, teachers, principals and Ministry of Education Stakeholders list will also be received from the database system of the Ministry. After this, using the developed sampling frame that depicts the sample size from each group to be recruited, the researcher will establish interest and willingness to participate the study by sending emails, phone calls and meetings. 485 participants will be identified; 265 males and 220 females. Females and Males will be selected using stratified sampling and purposive sampling techniques. Their age range between 13-50. Then, the informed consent will be taken from the participants by persuading them the ethical obligations of the study such as the privacy concealment, anonymity, confidentialit

5e. Research Participants Informed Consent.

Select below which categories of participants will participate in the study. Complete the relevant Informed Consent form and submit it along with the REAF form.

Yes	No	Categories of participants	Form to be completed
✔	☐	Typically Developing population(s) above the maturity age *	Informed consent Form
✔	☐	Typically Developing population(s) under the maturity age*	Guardian Informed Consent form

• Maturity age is defined by national regulations in laws of the country in which the research is being conducted.

Gulled Mohamed Yasin   R1910095469i   6

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5 f.   Relationship between the principal investigator and participants.

Is there any relationship between the principal investigator (student), co- investigators(s) , (supervisor) and participant(s)? For example, if you are conducting research in a school environment on students in your classroom (e.g. instructor-student).

☑ YES   ⭕ NO

If YES, specify (use the space provided in the box).

6.   Potential Risks of the Proposed Research Study.

6 a. i.   Are there any potential risks, psychological harm and/or ethical issues associated with the proposed research study, other than risks pertaining to everyday life events (such as the risk of an accident when travelling to a remote location for data collection)?

⭕YES   ☑ NO

If YES, specify below and answer the question 6 a.ii.

When conducting this research, many participants may feel psychological negative affective states such as anxiety, depression, guilt, shock and loss of self-esteem and altered behavior due to the low performance of the studies. There may also be Social/Economic risks include alterations in relationships with others that are to the disadvantage of the subject, including embarrassment , loss of respect of others, labeling a subject in a way that will have negative consequences, or in some way diminishing those opportunities and powers a person has by virtue of relationships with others. Some of the participants will also be afraid of the confidentiality and privacy issues.

6 a.ii Provide information on what measures will be taken in order to exclude or minimise risks described in 6.a.i.

To minimize any risks that may emerge during the study, the researcher will not be exposing subjects to unnecessary risk. The researcher will also prescreen to identify and eliminate high-risk participants. Finally, the researcher will provide participants with as much information as possible during informed consent and debriefing. The researcher will also notify that their information will not be passed to a third party and it will be kept under utmost confidentiality.

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6 b. Choose the appropriate option

		Yes	No
I.	Will you obtain written informed consent form from all participants?	O	LJ
II.	Does the research involve as participants, people whose ability to give free and informed consent is in question?	D	O
III.	Does this research involve participants who are children under maturity age? If you answered YES to question iii, complete all following questions. If you answered NO to question iii, do not answer Questions iv, v, vi and proceed to Questions vii, viii, Ix and x.	O	D
iv.	Will the research tools be implemented in a professional educational setting in the presence of other adults (i.e. classroom in the presence of a teacher)?		D
v.	Will informed consent be obtained from the legal guardians (i.e. parents) of children?		D
vi.	Will verbal assent be obtained from children?		D
vii.	Will all data be treated as confidential? If NO, explain why confidentiality of the collected data is not appropriate for this proposed research project, providing details of how all participants will be informed of the fact that any data which they will provide will not be confidential.	r0	1 O
viii.	Will all participants /data collected be anonymous? If NO, explain why and describe the procedures to be used to ensure the anonymity of participants and/or confidentiality of the collected data both during the conduct of the research and in the subsequent release of its findings.	O	O

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		Yes	No
ix.	Have you ensured that personal data and research data collected from participants will be securely stored for five years?		D
x.	Does this research involve the deception or participants? If YES, describe the nature and extent or the deception involved. Explain how and when the deception will be revealed, and who will administer this debrief to the participants:	D	

6 c. i. Are there any other ethical issues associated with the proposed research study that are not already adequately covered in the preceding sections?

O Yes   O No

If YES, specify (maximum 150 words).

6.c.ii Provide information on what measures will be taken in order to exclude or minimise ethical issues described in 6c.i.

The researcher will give participants information about how their data will be used, what will be done with case materials, and audio and video recordings, and secure their consent. Providing the participant with an accurate consent process that effectively communicates what the study entails will help the participant to make the decision that is best for them. Participants will be debriefed that their information will not be passed to a third party and will be kepiunder utmost confidentiality.

6 d. hdicate the Risk Rating.

☐ High   O Low

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7. <u>Further Approvals</u>

Are there any other approvals required (in addition to ethics clearance from UREC) in order to carry out the proposed research study?

O YES   D NO

If YES, specify (maximum 100 words}.

The Ministry of Education of Somaliland

8. <u>Application Checklist</u>

Mark ;/ if the study involves any of the following:

Children and young people under 18 years of age, vulnerable population such as children with special educational needs (SEN), racial or ethnic minorities, socioeconomically disadvantaged, pregnant women, elderly, malnourished people, and ill people.

D Research that foresees risks and disadvantages that would affect any participant of the study such as anxiety, stress, pain or physical discomfort, harm risk (which is more than is expected from everyday life} or any other act that participants might believe is detrimental to their wellbeing and / or has the potential to / wilt infringe on their human rights / fundamental rights.

D Ris to the welt-being and personal safety of the researcher.

D Administration of any substance (food / drink / chemicals / pharmaceuticals / supplements / chemical agent or vaccines or other substances (including vitamins or food substances) to human participants.

D Rests that may have an adverse impact on the natural or built environment.

9. Further <u>d</u>ocuments

Check that the following documents are attached to your application:

		ATTACHED	NOT APPLICABLE
1	Recruitment advertisement (if any)	O	D
2	Informed Consent Form / Guardian Informed Consent Form	O	D
3	Research Tool(s)	O	D
4	Gatekeeper Letter	EJ	D
5	Any other approvals required in order to carry out the proposed research study, e.g., institutional permission (e.g. school principal or company director) or approval from a local ethics or professional regulatory body.	EJ	D

Gulled Mohamed Yasin   R 1910D95469i   10

10.   Final Declaration by Applicants:

(a) I declare that this application is submitted on the basis that the information it contains is confidential and will only be used by Unicaf University for the explicit purpose of ethical review and monitoring of the conduct of the research proposed project as described in the preceding pages.

(b) I understand that this information will not be used for any other purpose without my prior consent. excluding use intended to satisfy reporting requirements to relevant regulatory bodies.

(c) The information in this form ,together with any accompanying information,is complete and correct to the best of my knowledge and belief and I take full responsibility for it.

(d) I undertake to abide by the highest possible international ethical standards governing the Code of Practice for Research Involving Human Participants. as published by the UN WHO Research Ethics Review Committee (ERC) on http://www.who.int/ethics/research/en/ and to which Unicaf University aspires to.

(e) In addition to respect any and all relevant professional bodies' codes of conduct and/or ethical guidelines, where applicable,while in pursuit of this research project.

I agree with all points listed under Question 10

Student's Name: !Gulled Mohamed Yasin

Supervisor's Name: for Rachel Monde Kabeta

Date of Application: 03-Dec-2022

Important Note:
Save your completed form (we suggest you also print a copy for your records) and then submit it to your UU Dissertation/project supervisor (tutor). In the case of student projects, the responsibility lies with the Faculty Dissertation/Project Supervisor. If this is a student application, then it should be submitted via the relevant link in the VLE. Please submit only electronically filled in copies; do not hand fill and submit scanned paper copies of this application,

Appendix I: Tools

Table of Contents

Material<;/htstrumentation of the Research Tools

Primary data collection is a process of collecting original data, directly from the source. It is used in research to gather first-hand infonnation about a problem or topic. Pfimary data is collected and eva luated to test the hypothesis and fmd answers to the research questions. Pri.maq data is information that is acquired directly from source by the researcher. In this study, secondary data will also be utilized when acquired from the other sources.

In this study, a structured questionnaire for sh1dents and teachers while a semi stn1ctured intelview for parents, principals and Ministry of Education officials will be used. An obselvation pro forma will be employed to acquire the scores of the pupils in this study. The use of multiple research instruments was necessary so as to augment the validity and reliability of the data collected and also for in-depth understanding and interpretation oftlle study variables. Mohammad (2013) argues that the use of different types of iustnnneuts for collecting data and obtaining the infomiation fi:om different sources helps to augment the validity and reliability of the data and their interpretation.

Questionnaire for Pupils and Teachers

The questionnaire which will be used to collect data pupils, teachers and parents will be OECD Teaching and Leaming International Survey(TALIS) a modillcation bythe researcher. The changes made to the TALIS were meant to collect objective data for the study based on academic rationalism, technological orientation, social reconstmction and insuuctiona l approaches. According to Oso (2016), questionnaires can collect a large amount of infommtion in reasonably shott period of time, ensure information needed is easily narrated and also ensure confidentiality, thus questiollllaire s were appropriate for use in this study. The questionnaire will be structured into sections that address the background information of the respondents such as demographics and the

other sections will address the objectives of the study. The questiormaire will contain open and closed ended questions.

The open -ended items will be used to provide respondents with an opportlmity to express their varied views regarding the items as they prompted conversations, hence provide rich data on the sll lly variables. According to Farrel (2016), open-ended questions provide rich, relia ble and valid data on the study variables. On the other hand , closed -ended questions will be used because they provide respondents with alternatives in Likert scales that made it easy for them to m1derstand the study variables under study. Close-ended questions also enabled the respondents to respond to questions that may have been sensitive in a straight forward manner and also made it easier to sunnnarize and analyze data collected more efficiently. Thorndike & Thorndike-Christ (2010) and Fink (2013) argue that closed -ended questions help iu answering sensitive questions, provide alternatives that help in avoiding irrelevant answers to questions and are easier to analyze statistically.

Inteniew Guide for the Minisry of Education Officials and Principals

A semi-strnctured interview guide will be used to collect data from the officials of the MinistJy of Education of Somaliland a11d the school principals on the determina11ts of the academic perfonnance of pupils in public primary school in Somaliland. Each interview will begin with a detailed explanation of the study, its significance and ethical considerations.

The interviews will be recorded and later listened to and transcribed. The interview transcripts will be conceptualized as an integral pa lt of understanding the study objectives. Semi structured interviews provides the researcher with an oppoltunity to explore new issues that emerge from the conversations (Crossman, 2017)_ The use of Ministry's officials and principals

voice in this study will be relevant in providing first- hand information and creating awareness of the detenninants of academic perfo lmance of pupils in public primary schools in Somaliland.

Pro Forma for Student Scores

To collect data. on the scores of the pupils in public primary schools of SomaWand, the researcher will employ proforma for the study. According to Segun (2022), proforma is used to observe the student achievement scores of the school.

Operational Definition of the Variables

A variable is a charactelistic (or an attibute) that can take a variety of forms (or values) at different times, or in different people, or in different places, or in different circumstances (Oso, 2016). Research involves studying variables and their relationships. There are usually l>vo main variables in any study: the independent and dependent variables. There are, however, several other variables whicb are more or less variations of these basic three.

An independent (or a predictor) variable refers to the conditions that a researcher contrnls (or changes) in order to test its effect on some outcome (Amin, 2005). It is the variable wbicb the researcher chooses to study and manipulates in terms of amount or level, in order to assess its effect another variable. Independent variable can be classified as treatme nt, organismic, or potential manipulated, or stratification variables. A treatment variable, also known as experiment.al, or manipulated or intervention variable is that variable that a. researcher actually manipulates by changing its levels or amount, or form, and which the researcher actually assigns pruticipants in a. study.

Inthis study, the independent variable is the detenninants of academic performance such as teacher quality, school leadership, home-related issues, school facilities and student ability. An independent vaiiable is usually presumed to affect another valiable (Oso, 2018). The other variable that the independent variable ispresumed to affect is called the dependent or criterion or outcome variable. Genera lly, the nature of a dependent variable depends on what an independent variable does to it (Nasra, 2016). Thus, a dependent variable manifests observable changes attributable to the influence of an independent variable. In our exainple above, alcohol is the independent variable and ability to remember mathematical facts is the dependent vru·iable. In this study, the dependent variable is the academic performance. In an ideal study, only the independent variable should influence the dependent variable (IdiL 2017).

In this study, the independent variable l , teacher quality is operationalized as the amalgamation of teacher's pedagogical knowledge and subject matter knowledge. This is a categolcal variable that dissects the independent variable into categorical groups. A categorical variable has values that you can put into a colllltable number of distinct groups based on a characteristic. Interval scale will be used to collect and measure data where intervals between two points aie of equal distance. Teacher quality will be measured using the Teaching and Learning International Sutvey. In independent variable 2, school fucilities, is operationally defined as the land, buildings and furniture. It includes physical facilities for teaching spaces and ancillary rooms. This an independent variable which is categorical. School facilities will be measured using the OECD questionnaire for measuring. Jn independent vaiiable 3, student ability, is operationally defined as the amalgamation of student's cognitive and non-cognitive skills. Student abillty has been further dissected into cognitive ability and non-cognitive ability. Cognitive ability was

measured using the questiormaire of Cognitive Assessment Questiormaire validated by PubMED while non-cognitive assessment was measured using UNESCO validated questionnaire.

Academic Performance is the measurement of student achievement across various academic subject i.e. student scores. This is the dependent variable of this study The dependent variable should also be measured on a continuous scale. A continuous variable is a variable that can take unlimited number of values between any hvo points; or a variable whose values vary along a continuum, and which can assume any value within a specific range. Academic pelfonnance will be measured using pro fornm or student scores.

Therefore, the research instmments that will be used are:

A) Teacher quality questionnaire

B) School facilities questionnaire

C) Student ability questionnaire

Teacher Quality Questionnaire

In this objective, the researcher adopted questionnaire to assess the eflect of teacher quality on the academic performance of pupils in public primary schools in Sonmlilalld. The researcher employed the Teaching and Leammg International Smvey adopted by OECD col111tries (TALIS).

The TALIS questiollllaire ensures that respondents fully understand the questions and aTe not likely to refuse to answer, lie to the interviewer or try to conceal their attitudes. This questionnaire is organized and worded to encourage respondents to provide accurate, unbiased and complete infonnation.

The first section elicits demographic infomiation of the respondents like gender, age group, educational qualification, yeai-s of teaching experience and the length of time spent in the ctment school. Tllese demographic questions were impoltant since they help to detennine whether the data somce was valid and dependable. No pernonal information, such as name, phone number, or email address, is requested. Furthennore, the introductory information puts the paiticipants at ease before responding to the questions.

This questionnaire is a stmctured that it accommodates only closed ended questions. Closed ended questions ask a question and provide a set of response options for pmticipants to choose front ln this questionnaire, 36 items have been included to measure *the* teacher quality factor (Bullock & Rader, 2022). Closed-ended items are used when researchers have a good idea of the different responses that participants might make (Oso, 20 L6). They are also used when researchers are interested i:n a well-defined variable or constrnct such as participants' level of agreement with some statement, perceptions of risk, or frequency of a patticular behavior. Closed-ended items are more difficult to write because they must include an appropriate set of response options. However, they are relatively quick and easy for participants to complete. They aie also much easier for researchers to analyze because the responses can be easily conve lted to numbers and entered into a spreadsheet. For these reasons, closed-ended items are much more common.

In the questionnaire, Likert Scale was employed to elucidate information from the respondents (teachern). A Likeit scale is a psychometric sea le cotmnonly involved in reseaich that employs questionnaires Roopa, S., & Rani, M. S. (2012). It is the most widely used approach to scaling responses in survey research, such that the tenn is often used interchangeably with rating scale, a.lthough there are other types of rating scales. Likert scale sUJvey questions are essential in measuring a respondent's opinion or attitude towaids a given subject and is an integraI patt of

market research. Likert scale is typically a five, seven, or nine-point agreement scale used to measure respondents' agreement with various statements. A Likert scale with 5-point agreement has been employed. The closed-ended questions designed on a Likert scale are ranging from 1 to 5, with I equivalent to (strongly agree) and 5 corresponding to (strongly disagree).

SchoolFacilities Questionnaire

In this objective, the researcher examined the effect of school facilities on the academic performance of pupils in public primary schools in Somaliland country. Therefore, the researcher employed questiollllaire validated by Organization for Economic Cooperation and Development (OECD) intended to assess the schools that take the international exams "Program for International Student Assessment" (PISA). This information will help illustrate the similarities and differences between groups of schools inorder to better establish the context for students· test results (Saeed, 2017).For example, the information provided may help to establish what effect the availability of school fucilities may have on student achievement – both within and bel:\veen countiies.

This tool acconunodates 29 items that elicit the information on the school facilities and resources. The closed-ended questions designed on a Likert scale are ranging fiom 1 to 5, with 1 equivalent to (strongly agree) and 5 corresponding to (strongly disagree).

The first section elicitsdemographic information of tbe respondents like gender, age group, educational qualification, years of teaching experience and the length of time spent in the cmTent school. These demographic questions were imponant since they help to determine whether the data solnce was valid and dependable . No personal information, such as name,phone number, or email address, is requested. Furthennore, the introducto1y infonnation puts the pailicipants at ease before responding to the questions.

Student Ability Questionnaire

In this objective, the researcher adopted questionnaire to elicit information pertaining on the effect of student ability on the academic performance of pupils in public primary schools in Somaliland country. The tool consists of 56 items to elicit firsthand information about the effect of student ability in the academic performance of pupils in public primary schools in Somaliland country. 29 out of the 56 items measure student cognitive ability while 27 measure non-cognitive aspects.

This is a compilation of cognitive and no cognitive instrument that together constitute the student ability. The cognitive assessment questionnaire, originally called the cognitive failures questionnaire (CFQ) was developed by Broadbent et al. (1982) to assess the frequency with which people experienced cognitive failures, such as absent-mindedness, in everyday life - slips and errors of perception, memory, and motor functioning. It was later named as cognitive assessment questionnaire and was validated by PubMed. The non-cognitive tool was also validated by UNESCO, report 2016. The tool consists of 56 items to elicit firsthand information about the effect of student ability in the academic performance of pupils in public primary schools in Somaliland country.

Appendix J: Teacher Questionnaire

The study looks for how teacher quality, school leadership, home-related issues and school facilities affect academic performance of pupils in public primary schools in Somaliland under the supervision of Dr Rachel Monda Kabeta.

Part J: Background Information

Please provide the following information about yourself by filling in the blank spaces after each question or by ticking (./) the selected alternative.

Yow- school

1. Your gender: female D Male ———— Prefer Not to State

Otber

2. Age: 20-25 D 26-30 D 32+ ————

3. What is your employment status?

Full time I —— Prut time ————

4. What is your highest level of fonnal education?

Diploma ———— Bachelor ———— Masters ————

5. For how long have you been teaching?

Less than 3 years ———— 3-6 years ————, 7-10 years ————

+10 years . ————

6. Are you a registered teacher at the Ministry of Education?

Yes ———— No I ——

Part II.

This study is aimed at investigating "Detenninants of Academic Perfolmance of Pupils in Public Primary Schools in Sornaliland Cowll1y. The study looks for how teacher quality, school leadership, home-related issues and school facilities affect academic perfonnance of pupils in public primary schools in Somaliland 1mder the supetvision of Dr Rachel Monda Kabeta.

Kindly offer your consent to answer fill Ibis questionnaire.

I consent voluntarily to be a paiticipant in this study.

Date...

Infonned Consent Box (Tick if consented).

TEACHER QUALITY QUESTIONNAIRE

Keys: SA. Strongly Agree, A. Agree, NC. No Comment DA. Disagree, SDA. Strongly Disagree

No.	Statement	SA	A	NC	DA	SDA
I.	I have regularly attended courses/workshops (e.g. on subject matter or methods and/or other education-related topics)					
2.	I attended Education conferences or seminars (where teachers and/or researchers present their research results and discuss educational problems)					
	I earned qualification programme (e.g. a degree programme)					
3.	I pruticipated in a network of teachers formed specifically for the professional development of teachers					

4.	I participated in individual or collaborative research on a topic of interest to me professionally
5.	I undertake mentoring and/or peer observation and coaching as part of a formal school arrangement
6.	I attended reading professional literature (e.g. journals, evidence-based papers, thesis papers)
7.	I was engaged in informal dialogue with my colleagues on bow to improve my teaching
8.	I have attended professional development on content and performance standards in my main subject field(s)
.10	I have attended trainings on student assessment practices
.11	I have attended classroom management practices training
.12	I have a deep knowledge and understanding of instructional practices (knowledge mediation) in my main subject field(s)
.13	I have adequate JCT skills for teaching

15	I often engage in student discipline and behavior problems
16	I work with school management and administration
17	I engage in extra-curricular activities with students (e.g. school plays and performances, sporting activities)
18	I play a significant role in school development initiatives (e.g. ctu liculum development group, development of school objectives)
19	Tilinkiug and reasoning processes are more important than specific cmliculum content for me
20	I attend staff meetings to discuss the vision and mission of lhe school
21	I discuss and decide on the selection of iustrnctional media (e.g. textbooks, exercise books)
22	I ensure common standards in evaluations for assessing student progress
23	I discuss and coordinate homework practice across subjects
24	I review with lhe students the homework they have prepared.
25	I present new topics to the class (lecture-style presentation).

26	Students work in small groups to come up with a joint solution to a problem or task
27	I give different work to the students that have difficulties learning and/or to those who can advance faster.
28	At the begi.lUling of the lesson I present a short summary of the previous lesson.
29	I regularly check my students' exercise books.
30	My students work 011 projects that require at least one week to complete.
31	I work with individual students.
32	I check, by asking questions, whether or not the subject matter has been tmderstood.
33	I administer a test or quiz to assess student learning.
34	I ask my students to write an essay in which they are expected to eiqJlain their thinking or reasoning at some length.
35	Students work individually with the textbook or worksheets to practice uewly taught subject matter.
36	Students hold a debate and argue for a particular point of view which may not be their own.

Keys: SA. Strongly Agree, **A.** Agree, **NC.** No Comment **DA.** Disagree, **SDA.** Strongly Disagree

Part I: Background Information

Please provide the following information about yourself by filling in the blank spaces after each question or by ticking (✔) the selected alternative.

Name of your school_____

District_____

Region_____

1. Your gender: female [____] male [____] Prefer Not to State [____]

Other [____]

2. Age: 14 – 17 [____] 18+ [____]

Part II.

This study is aimed at investigating "Determinants of Academic Performance of Pupils in Public Primary Schools in Somaliland Country. The study looks for how teacher quality, school leadership, home-related issues and school facilities affect academic performance of pupils in public primary schools in Somaliland under the supervision of Dr Rachel Monda Kabeta.

Kindly offer your consent to answer fill this questionnaire.

I consent voluntarily to be a participant in this study.

Date...

Informed Consent Box (Tick if consented). [_____]

Appendix K: Student Questionnaire

SCHOOL FACILITIES

Keys: SA. *Strongly Agree,* A *Agree, NC. No Comment DA. Disagree, SDA. Strongly Disagree*

No	Statement	NC	D	SDA

1.	We have adequate classrooms for better learning engagement.
2.	There are adequate Textbooks in the classrooms.
3.	Students feel comfortable in the laboratory for undertaking experiments.
4.	We have library that helps us access to reference books.
5.	We Computer rooms to u11de llake vital projects assigned by teachers.
6.	ApaJt from telli books our teachers have teadler guides.
7.	We have adequate chemicals in the lab for experimentation.
8.	We have adequate supplementary books and journals in the library.
9.	Students have adequate and accessible stationaries in the school.
10.	Scarcity of resource breeds unhealthy learning enviromnent e.g. lack of toilets.
11.	The school has not adequate ventilation and lighting; some classes may go mlattended in adverse weather .

12.	Learners lack confidence and motivation in the school.
13.	Students are involved in designing, collecting and making some teaching aids.
14.	The teachers use charts to illustrate what they are teaching to students.
15.	The teachers use the chalk boards to ilh lstrate and make clear their teaching.
16.	The teachers use drawings on paper and clip boards as when providing instrnctions in class.
17.	The teachers guide the students in their discussions using several visual materials.
18.	Teachers use appropriate charts and diagrams for the immediate illustration of science lesson.
19.	The teachers are provided v.<ith teaching discussion guides that enable them in their discussions.

20.	The school has not adequate ventilation and lighting; some classes may go unattended in adverse weather .					
21.	The teachers use specimen and practical items to demonstrate practical subjects.					
22.	The teachers use effective laborato ly equipment in teaching for the science subjects.					
23.	The demonstrations on gardens, chemicals and their application are used in teaching by teachers.					
24.	Teachers use the required apparatus in carrying out the practical teacl ling to students.					
25.	The teachers also employ practical teaching and demonstration classes were the students are given the instruction materia ls for teaching.					
26.	The exact practical materials are used by the teachers ll1 their teaching on day to day basis.					

27.	The teacher uses audio recordings for teaching to students in classes.				
28.	The teachers past instructor's recordings for teaching in classes.				
29.	The teachers use past exam papers to prepare students for the next exams.				

Part I: Background Information

Please provide the following information about yourself by filling in the blank spaces after each question or by ticking (✔) the selected alternative.

Name of your school_____

District_____

Region_____

1. Your gender: female [ ]   male [ ]   Prefer Not to state [ ]

Other [ ]

2. Age: 14 – 17 [ ]   18+ [ ]

Part II.

This study is aimed at investigating "Determinants of Academic Performance of Pupils in Public Primary Schools in Somaliland Country. The study looks for how teacher quality, school leadership, home-related issues and school facilities affect academic performance of pupils in public primary schools in Somaliland under the supervision of Dr Rachel Monda Kabeta.

Kindly offer your consent to answer fill this questionnaire.

I consent voluntarily to be a participant in this study.

Appendix L: Student Questionnaire

Date.. .....

Infonned Consent Box (Tick if consented).

STUDENT ABILITY QUESTIONNAIRE

Keys: SA. Strongly Agree, A.Agree, NC.No Comment DA. Disagree, SDA. Strongly Disagree

No.	Statement	SA	A	NC	DA	SDA
1.	I enjoy analyzing subject content and thematic issues personally in order to understand it better.					
2.	I feel I must understand every word of what I read or hear in every subject in class.					
"	I have no problem concentrating amid noise and confusion while snldying.					
4.	I think individual study is the key to effective subject learning.					
5.	I prefer working alone to working with olher people.					
6.	Receiving feedback from other people really doesn't affect my learning at all.					
7.	I usually look for solutions to my learning challenges by thinking tluough and acting on my skills and experiences.					
8.	1 usually pick my books and read even when my classmates are relaxing in the fields.					
9.	I don't like it when other activities interfere with my learning timetable.					
10.	I need a quiet enviromnent in order to concentrate well in my studies.					

11.	I have no problem concentrating amid noise and confusion while studying.
12.	*I* find it tedious and boring to analyze the subject

	content and thematic issues.
13.	*1* don't mind reading or listening on tl le subject teaching without understanding every single word as long as I 'catch' the main idea.
14.	I think discussion is the key to effective subject learning
15.	I really enjoy working with other people in pairs or groups.
16.	I find feedback useful as a means of understanding my problem areas.
17.	I usually seek to know what other people would handle similar challenges and try out the various ways of solvi.ng them.
18.	
19.	I can read well when my classmates are settled and fucused fur individual studies around me.
20.	I like it when I'm exposed to various activities in between my learning timetable to break the monotony of continuous studying.
21.	I fail to notice important noticeboards in the school.
22.	I fail to listen to student's names when I am meeting them.
23.	I sometimes something and later realize that it can be taken as insulting.
24.	I fail to hear people when I am doing something.
25.	I sometimes leave impo l tant exercises tuianswered for days.
26.	I sometimes forget the appointments I have with my classmates.
27.	I forget where I put my notebooks and textbooks.
28.	I accidently th10w away some impo l tant notes.
29.	I have overcome setbacks to conquer an important challenge.
30.	New ideas and projects sometimes distract me from previous ones.
31.	My interests change from year to year.
32.	I have been obsessed with a ce l lain idea or project for a sho l t time but later lost interest.
33.	I often set a goal but later choose to pursue a different one.

34.	I have difficulty maintaining my focus on projects that take more l:han a few months to complete.
35.	I become interested in new pursuits every few mouths.
36.	When confronted with a problem, give up easily.
37.	I put off difficult problems.
38.	I remain interested in the tasks that I start.
39.	I continue working on tasks until everything is perfect.
40.	"Vl hen confronted with a problem, I do more than what is expected of me.
41.	People would say that have a ve ly strong discipline.
42.	I often act without thinking through all the alternatives.
43.	Sometimes I have trouble making my friends and family realize how angiy or upset I am with them.
44.	I rarely show my feelings or emotions.
45.	I can accurately tell what a person's character is upon first meeting him or her.
46.	I always seem to know what peoples' true feelings are no matter ho'>v hard they try to conceal them.
47.	I am very good at maintaining a cairn exterior even if I am upset.

Keys:SA. Strongly Agree, A. Agree, NC. No Comment DA. Disagree, SDA. Strongly Disagree

INTERVIEW

Interview Guide for School Leadership

The second strategy used in collecting primary data is interviews. This is to allow for triangu lation of information obtained from quantitative surveys. Using a one-on-one interview strategy allows the researcher to cormect with the participants while also observing nonverbal cues. To maintain focus and manage time, in-depth discussion of the research issue, an unshuctured inte lview method is adopted in this study.

Face to fuce or telephone inteiviews will be conducted depending on the preference of the interviewees. The first step will involve debriefing the pruticipants on the purpose and importance

of the study, the research protocols, their right to withdraw from the study at any time, and the steps to be taken to protect their confidentiality.

Inthe first objective, the researcher sought to examine the effect of school leadership on academic perf01mance of pupils in public primary schools in Somaliland. School Leadership is the process of enfating and guiding the talents and energies of teachers, students, and parents toward achieving conunon educational aims. Inthis study, school leadership a qualitative variable which is an independent variable. It is dissected as instructional leadership and transformationa l leadership.

The researcher adopted intelview guide to elicit infonnation pe ltaining on the effect of school leadership on the academic perfonnance of pupils in public primary schools in Somaliland county An interview guide is a list of topics or questions that the intelviewer hopes to cover during the cowse of an interview (Abdirahman, 2015). It is called a guide because it is simply that-it is used to guide the intelviewer, but it is not set in stone. Interview guides should outline issues that a researcher feels are likely to be important. Participants are asked to provide answers in their own words and to raise points tley believe are i.nJportrult, so each interview is likely to flow a little differently. This is aimed at acquiring much data on qualitative aspect of the school leadership. Therefore, quaJitative interview will be conducted. Qualitative intetviews are sometimes called intensive or in-depth inte1views. These interviews are considered semi-strnctured because the researcher has apatticular topic for the respondent, but questions are open-ended and may not be asked in the exact same way or order to each respondent. The primary goal of an in-depth interview is to hear what respondents think is importru1t about the topic at hand and to hear it in their own words.

Intenns of the constmction of the intelview guide, the researcher adopted the OECD tool for leadership Teaching a11d Learning International SutVey (. The researcher exceipted the sections concerning leadership with some modifications. According to Rutkowski, Rutkowski, Belanger, Knoll, Weatherby and Pmsinski (2013) The OECD Teaching and Leaming International Smvey (TALIS) is an international, large-sea le survey of teachers, school leaders and the learning environment in schools. TALIS uses questionnaires administered to teachers and theiJ school principals to gather data. This has been adopted since self-constructed tools are discouraged. This tool accotmnodates 28 items. The first 12 items address the transfonnational leadership while the 16others relate to instructional leadership.

Respondents might think that qualitative intelviews feel more like a conversation than an interview, but the researcher is guiding the conversation with the goal of gathering information from a respondent (Ponizovsky-Bergelson, Y., Dayan, Y., Wahle, N., & Roer-Strier, D. (2019). Qualitative interviews use open-ended questions, which are questions that a researcher poses but does not provide answer options for. Open-ended questions are more demanding of participants than closed-ended questions forthey require participants to come upwith their own words, pluases, or sentences to respond

Home-relateli Issues Interview Guide

According to Leventhell (200I), home-related issues include the psychological friendliness parents exhibit while engaging with their kids, the provision of engaging and educational activities within the home, and the home's physical surroundings, such as the security of play places and cleanliness. Inthis study, home-related issues is conceptualized as parental involvement and socio-economic status.

Name of your school _____

1. Your gender: female   Male _____ Prefer Not to state _____

Other _____

2. Age: 25-30   31 -39   40+ _____

3.What is your highest .level of fonnal education?

Diploma _____   Bachelor _____   Masters _____

4. How many years have you worked as a teacher?

Less than 3 years _____   3-6 years _____   7-1O years _____

+ 10 years _____

S. Are you a registered teacher at the Ministry of Education?

Yes _____   No _____

6. How many years have you worked as a principal?

Less than 3 years _____   3-6 years _____   7- 10 years _____

+ 10years _____

7. Have you received professional development courses?
Yes _____   No _____

Part II.

This study is aimed at investigating "Determinants of Academic Perfonnance of Pupils in Public Primary Schools in Somaliland Cotnltry. The study looks for how teacher quality, school leadership, home-related issues and school facilities affect academic perfonnance of pupils in public prinlary schools in Somaliland under the supelvision of Dr Rachel Monda Ka beta.

Kindly offer your consent to answer fill this interview guide.

I consent voluntarily to be a participant in this study.

Appendix M: Interview Guide For Principals

Date..

Infotmed Consent Box (Tick if consented).

SCHOOL LEADERSIDP INTERVIEW GUIDE

1. What do you perceive to be the most important roles and responsibilities of a school principal?
2. What role do you believe the school principal plays in improving student learning?
3. What factors do you think contribute most to teachers' growth? How or what does the principal contribute in developing these factors
4. What should/do teachers expect after a walktbrougb/observation from their principal?
5. \Vl1ich principal leadership practices do you believe have the strongest relationship to student achievement
6. '\Vl1at actions do you put in place to improve teaching practices and skills?
7. How often do you review school administrative procedures and reports and why?
8. What actions do you undertake to ensure teachers canythe responsibility for improving student learning outcomes?
9. What is your opinion towards a professional development plan?
10. What actions do you put in place in order to set a proper school climate?
11. How do you define and communicate school mission?
12. How do you create a collaborative school environment?
13. To what extent do you promote incentives for teachers?
14. How do you monitor student progress dming learning?
15. To what extent do you encourage teachers to use instrnctiona.I time for teaching and practicing new skills and concepts
16. To what extent do you use tests and other perfonna.nce measures to assess progress toward school goals
17. To what extent do you make clear who is responsible for coordinating the curriculum across grade levels (e.g. the principal, vice-principal, or teacher-leaders

18. To what extent do you point out specific strengths in teacher's instructional practices iu post-observation feedback (e.g. in conference of Titten evaluation)?
19. To what extent do you communicate the school's mission effectively to members of tbe school community
20. To what extent do you ensure that classroom priorities of teachers are consistent with the goals and direction of the school
21. . To what extent do you use needs assessment or other fonna.l or informal methods to secure staff input on goal development?

22. How does your school respond to changes when needed?
23. How does this school readily accept new ideas?
24. To what extent does the school co-operate with the local community?
25. To what extent do you undertake class observation and provide feedback to teachers?
26. To what extent do you work with teachers to ensure standards for assessing student progress?
27. Does the school have a culture of shared responsibility? To what extent?
28. What is the status of collaborative culture of mutual support in the school?

Part I: Background Information

Please provide the following information about yourself by filling in the blank spaces after each question or by ticking (✓) the selected alternative.

Your school _____

1. Your gender: female [ ]   Male [ ]   Prefer Not to state [ ]

Other [ ]

2. Age: 35--40 [ ]   41 –46 [ ]   47+ [ ]

3. What one of the following do you fall?

Father [ ]   Mother [ ]   Guardian [ ]

4. What is your highest level of formal education?

Diploma [ ]   Bachelor [ ]   Masters [ ]

5. What is your marital status?

[ ]   [ ]   [ ]